

Custom Book Index

With over 1000 individual chapters to choose from, Schoolcraft has the training content to help satisfy your training needs. Our topics cover a broad and diverse spectrum of subject matter, from reading blueprints to electrical schematics, measurement to rigging and safety, material handling to welding, and everything in between! Choose only the lessons that meet your specific curriculum requirements.

Use the list of the following titles to find custom books that have already been created by other teaching professionals like you. Contact your account manager for more information or to create your own custom book.

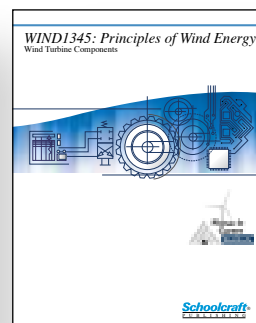
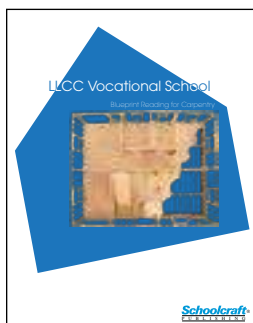


Table of Contents

Electrical Custom Books

Fluid Power Custom Books

Fundamentals Custom Books

HVAC & Refrigeration Custom Books

Instrumentation & Process Control Custom Books

Mechanical Technology Custom Books

Mechatronics Custom Books

Ensure your Textbook Coincides with your Technical Syllabus

Choose from one of these already created custom books, or build your own by choosing from over 1,000 chapters from our industry-validated textbooks. Use our websites built in custom book builder and/or collaborate with one of our dedicated account representatives to build a custom book that is targeted to your specific curriculum needs.

Begin Building your Custom Book Today

[Browse our Technical Library](#)

Electrical Custom Books

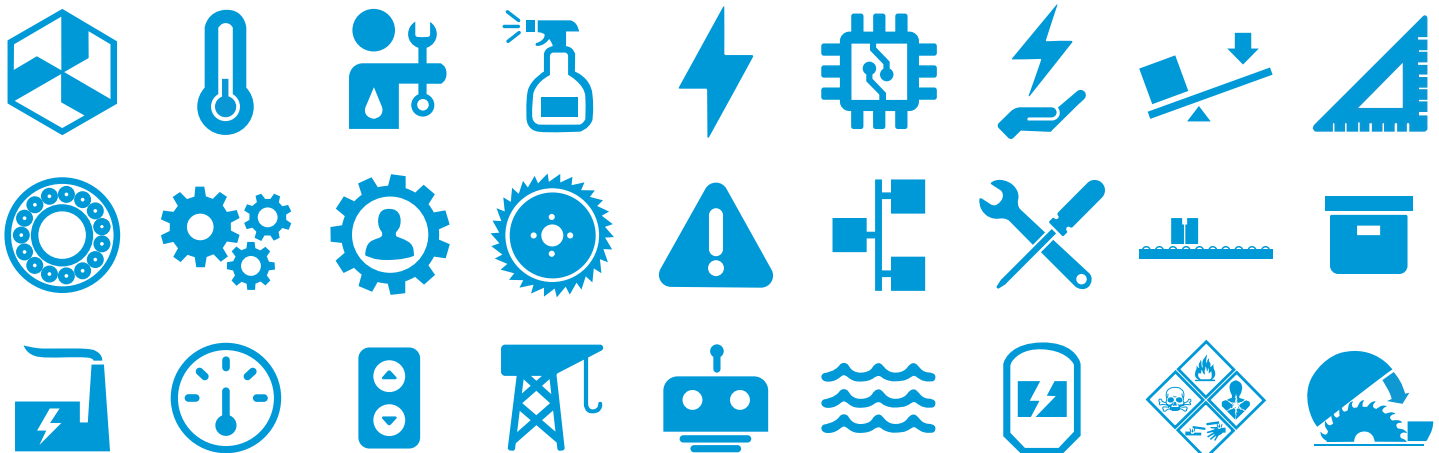
This list of already created Electrical custom books were created by other teaching professionals like you. Select a title from this catalog or create one of your own by choosing the specific lessons, from our full library of technical textbooks, that meet your specific curriculum requirements.

Need help determining the right custom book for your class? We can perform a curriculum match-up to our specific chapters that correspond with your syllabus and build a single, comprehensive textbook.

**Due to the customization of these titles, exam copies are subject to availability.*

Electrical Custom Books

SCP 200	Electrical Maintenance
SCP 204	Electrical Print Reading
SCP 206	Electronic Maintenance
SCP 208	Principles of Electricity and DC Control Equipment
SCP 214	Basic Electrical Safety Protection and Schematics
SCP 241	Industrial Electrical Technology
SCP 257	Industrial Technology Mining Electrical
SCP 289	DC Circuits I
SCP 290	AC Circuits I
SCP 298	Electrical Motor Control
SCP 299	Electrical Safety & Protection
SCP 313	Industrial Machine Control
SCP 333	Principles of Robotic Systems
SCP 343	Introduction to Solid State Robotics and Automation Technology
SCP 423	Introduction to NFPA 70 & 70E
SCP 453	Electrical Technology Vol. 1
SCP 454	Electrical Technology Vol. 2
SCP 464	Basic Electricity for the Trades



SCP 200 **Electrical Maintenance**

Chapter #	Chapter Title
1	Introduction to Blueprints
2	Electrical Diagrams
3	Electrical Protection
4	DC Circuits
5	AC Electricity
6	Series-Parallel Circuits
7	Principles of Single-Phase Motors
8	Servos
9	Motor Installation
10	Principles of Three-Phase Motors
11	Three-Phase Motor Controllers
12	Motor Starters
13	Motor Control Centers
14	Introduction to Programmable Logic Controllers
15	Troubleshooting Techniques
16	Troubleshooting with Electrical Schematics
17	Troubleshooting Control Circuits
18	Troubleshooting Combination Starters
19	Oscilloscopes

SCP 204 **Electrical Print Reading**

Chapter #	Chapter Title
1	Introduction to Technical Diagrams
2	Electrical Symbols
3	Troubleshooting with Electrical Schematics
4	Troubleshooting Control Circuits
5	Saving Time in Troubleshooting

SCP 206

Electronic Maintenance

Chapter #	Chapter Title
1	Introduction to Semiconductors
2	Environmental Conditions
3	Printed Circuit Boards
4	Transistors and Integrated Circuits
5	Power Supplies and Power Conditioners
6	Rectifiers
7	Filters
8	Voltage Regulators
9	Troubleshooting Power Supplies
10	Introduction to Amplifiers
11	Single-Stage Amplifiers
12	Amplifier Performance and Multistage Amplifiers
13	Op Amps
14	Digital Logic Fundamentals
15	Logic Building Blocks
16	Medium- and Large-Scale ICs
17	Functional Logic Systems
18	Introduction to Programmable Logic Controllers
19	Examining and Programming the System
20	Input/Output Devices
21	Maintaining a Programmable Logic Control System

SCP 208

Principles of Electricity and DC Control Equipment

Chapter #	Chapter Title
1	Electrons in Atom
2	Current Electricity
3	Current, Resistance, and Voltage
4	Electrical Components
5	Conductors
6	DC Circuits
7	AC Electricity
8	Uses of DC Power
9	DC Motors
10	DC Relays
11	DC Controllers
12	DC Power Supplies
13	Maintaining DC Equipment

SCP 214

Basic Electrical Safety Protection and Schematics

Chapter #	Chapter Title
1	Electrical Hazards
2	Electrical Safety Equipment
3	Electrical Safety Procedures
4	Grounding, Ground Faults, Short Circuits
5	Troubleshooting with Electrical Schematics
6	Troubleshooting with Building Drawings
7	Current, Resistance, and Voltage
8	Conductors
9	AC Electricity
10	Principles of AC Circuits
11	Principles of Single Phase Motors
12	Principles of 3-Phase Circuits
13	Transformer Operations
14	Motor Starters
15	Control Relays

SCP 241

Industrial Electrical Technology

Chapter #	Chapter Title
Part I	
1	Current, Resistance, and Voltage
2	Electrical Components
3	Conductors
4	AC Electricity
5	Series-Parallel Circuits
6	Principles of AC Circuits
Part II	
1	Principles of 3-Phase Circuits
2	Transformer Operations
3	Motor Starters
4	Switches and Controls
5	Control Relays
6	Troubleshooting with Electrical Schematics
7	Troubleshooting Control Circuits
8	Troubleshooting Combination Starters
9	Troubleshooting Control Devices
10	Troubleshooting Special Controls
11	Saving Time in Troubleshooting

SCP 257
Industrial Technology Mining Electrical

Chapter #	Chapter Title
1	Electrical Hazards
2	Electrical Safety Equipment
3	Electrical Safety Procedures
4	Grounding, Ground Faults, and Short Circuits
5	Fuses and Circuit Breakers
6	Motor Protection
7	Current, Resistance, and Potential Difference
8	Power Distribution Systems
9	Ammeters, Voltmeters, and Wattmeters
10	Power and Energy in AC Circuits
11	Auxiliary Generator Systems
12	DC Motors
13	Introduction to Single-Phase Motors
14	Motor Control Centers
15	Maintaining 3-Phase Motors
16	Motor Starters
17	Switches and Controls
18	Special Motor Controls
19	Troubleshooting Control Circuits
20	Troubleshooting Combination Starters
21	Troubleshooting Control Devices
22	Troubleshooting Special Controls
23	Principles of Meter Operation
24	Resistance Measurement
25	Multimeters
26	Oscilloscopes

SCP 289
DC Circuits I

Chapter #	Chapter Title
1	Electrochemical Action
2	Battery Characteristics
3	Kinds of Batteries
4	Maintaining Lead-Acid Batteries
5	Charging Lead-Acid Batteries
6	Principles of Meter Operation
7	Multimeters
8	Solving Problems in DC Circuits
9	DC Series Circuits
10	Parallel Circuits
11	Series-Parallel Circuits
12	DC Circuits in use

SCP 290
AC Circuits I

Chapter #	Chapter Title
1	Principles of Alternating Current
2	Oscilloscopes
3	Mathematics in AC Circuits
4	Inductance and Inductive Reactance
5	Capacitance and Capacitive Reactance
6	Impedance
7	Power and Energy in AC Circuits
8	Three-Phase Circuits
9	Principles of Transformers
10	Transformer Applications
11	Maintaining Transformers

SCP 298 **Electrical Motor Control**

Chapter #	Chapter Title
1	Motor Starters
2	Manual Pilot Devices and Control Stations
3	Limit Switches
4	Control Switches and Automatic Pilot Devices
5	Timers and Counters
6	Control Relays
7	Equipment for Hazardous Locations
8	Special Motor Controls
9	Rectifiers

SCP 299 **Electrical Safety & Protection**

Chapter #	Chapter Title
1	Introduction to Safety
2	Safe Materials Handling
3	Safe Work Practices
4	Tool Safety
5	Electrical Safety
6	Electrical Protection
7	Electrical Hazards
8	Electrical Safety Equipment
9	Electrical Safety Procedures
10	Grounding, Ground Faults, and Short Circuits
11	Fuses and Circuit Breakers
12	Motor Protection

SCP 313

Industrial Machine Control

Chapter #	Chapter Title
1	Three-Phase Motor Circuits
2	Alternators
3	DC Controllers
4	Principles of Transformers
5	Transformer Applications
6	Maintaining Transformers
7	Special motor Controls
8	Introduction to Programmable Logic Controllers
9	Number Systems and Logic
10	Programming the System
11	Troubleshooting with Electrical Schematics
12	Control Relays
13	Motor Starters
14	Three-Phase Motor Controllers
15	Troubleshooting Control Circuits
16	Troubleshooting Combination Starters
17	Troubleshooting Control Devices
18	Troubleshooting Special Controls
19	Limit Switches
20	Special Control Switches
21	Input/Output Devices and Modules
22	Timers and Counters
23	Electrician's Tools
24	Power Distribution Systems
25	Electrical Components
26	Conductors
27	Electronics

SCP 333

Principles of Robotic Systems

Chapter #	Chapter Title
1	Robotics in Automated Manufacturing
2	The Basic Robot System
3	Robot Classification I
4	Robot Classification II
5	Work-Cell Sensors
6	Limit Switches
7	Servos
8	Electric Actuators
9	Pneumatic and Hydraulic Actuators
10	End-of-Arm Tooling
11	Digital Logic Fundamentals
12	Timers and Counters
13	Introduction to Programmable Logic Controllers
14	Robot Teaching and Programming

SCP 343

Introduction to Solid State Robotics and Automation Technology

Chapter #	Chapter Title
1	Introduction to Semiconductors
2	Environmental Conditions
3	Transistors and Integrated Circuits
4	Packages and Performance Analysis
5	Power Supplies and Power Conditioners
6	Rectifiers
7	Filters
8	Voltage Regulators
9	Troubleshooting Power Supplies
10	Introduction to Amplifiers
11	Single-Stage Amplifiers
12	Amplifier Performance
13	Op Amps
14	Troubleshooting Amplifiers
15	Introduction to Oscillators
16	Digital Logic Fundamentals
17	Logic Building Blocks
18	Medium- and Large-Scale ICs
19	Functional Logic Systems
20	Troubleshooting Logic Systems

SCP 423

Introduction to NFPA 70 & 70E

Chapter #	Chapter Title
1	The National Electric Code®
2	Article 90: Introduction and Purpose
3	Articles 100 and 105: Terms and Definitions
4	Article 110: General Requirements for Work Practices
5	Article 120: Establishing and Electrically Safe Work Condition
6	Article 130: Work Involving Electrical Hazards
7	Annexes and Supplemental Materials

SCP 453
Electrical Technology Vol. 1

Chapter #	Chapter Title
1	Introduction to Electricity
2	Static Electricity
3	Current Electricity
4	Magnetism
5	Current, Resistance, and Potential Difference
6	Electrical Components
7	Conductors
8	DC Circuits
9	Electrical Hazards
10	Electrical Safety Equipment
11	Electrical Safety Procedures
12	The National Electrical Code®
13	Grounding, Ground Faults, and Short Circuits
14	Fuses and Circuit Breakers
15	Motor Protection
16	Principles of Meter Operation
17	Ammeters, Voltmeters, and Wattmeters
18	Resistance Measurement
19	Multimeters
20	Article 90: Introduction and Purpose
21	Articles 100 and 105: Terms and Definitions
22	Article 110: General Requirements for Work Practices
23	Article 120: Establishing and Electrically Safe Work Condition
24	Article 130: Work Involving Electrical Hazards
25	Article 200-250: Safety-Related Maintenance Requirements
26	Article 300-350: Safety Requirements for Special Equipment
27	Annexes and Supplemental Materials

SCP 454
Electrical Technology Vol. 2

Chapter #	Chapter Title
1	Principles of Alternating Currents
2	Mathematics in AC Circuits
3	Inductance and Inductive Reactance
4	Capacitance and Capacitive Reactance
5	Impedance
6	Power and Energy in AC Circuits
7	Three-Phase Circuits
8	Principles of Transformers
9	Transformer Applications
10	Troubleshooting with Electrical Schematics
11	Troubleshooting with Building Drawings
12	Troubleshooting Control Circuits
13	Troubleshooting Combination Starters
14	Motor Starters
15	Switches and Controls
16	Limit Switches
17	Timers and Counters
18	Control Relays
19	Principles of Hydraulics
20	Reservoirs and Accumulators
21	Hydraulic Pumps
22	Directional Control Valves
23	Pressure Control Valves
24	Hydraulic Cylinders
25	Hydraulic Motors

SCP 464
Basic Electricity for the Trades

Chapter #	Chapter Title
1	Electrical Hazards
2	Introduction to Electricity
3	Current Electricity
4	Magnetism
5	Current, Resistance, and Potential Difference
6	Electrical Components
7	Conductors
8	DC Circuits
9	AC Circuits
10	Introduction to Single-Phase Motors
11	Split-Phase Motors
12	Capacitor Motors
13	Repulsion Motors
14	Universal Motors
15	Motor Maintenance
16	Troubleshooting with Electrical Schematics
17	Troubleshooting Control Circuits
18	Troubleshooting AC Motors
19	Principles of Transformers
20	Transformer Applications

Energy Custom Books

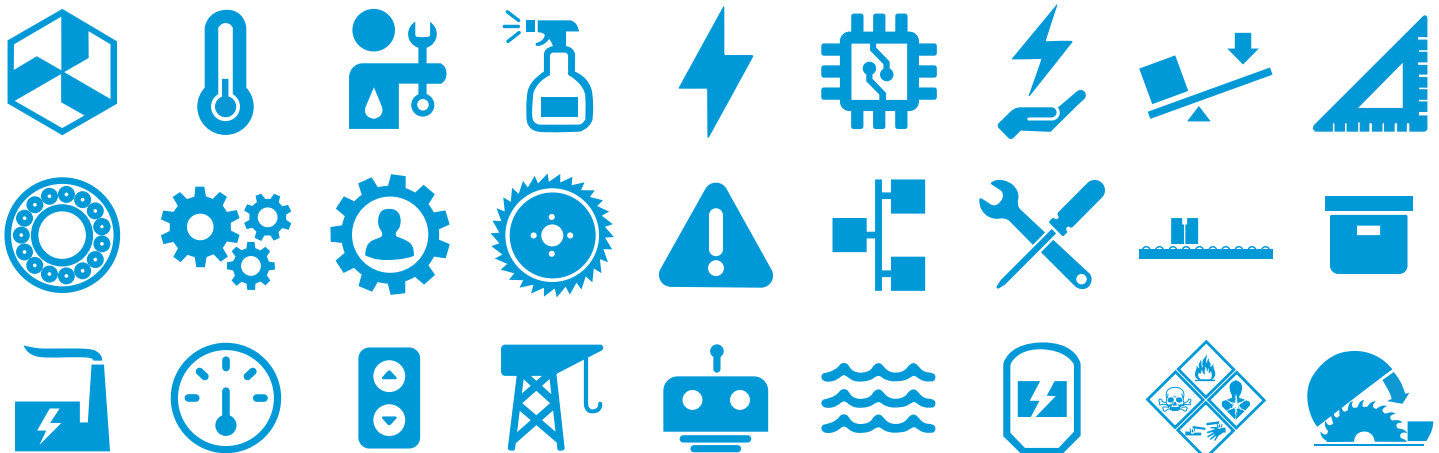
This list of already created Energy custom books were created by other teaching professionals like you. Select a title from this catalog or create one of your own by choosing the specific lessons, from our full library of technical textbooks, that meet your specific curriculum requirements.

Need help determining the right custom book for your class? We can perform a curriculum match-up to our specific chapters that correspond with your syllabus and build a single, comprehensive textbook.

**Due to the customization of these titles, exam copies are subject to availability.*

Energy Custom Books

SCP 216	Power Plant Operations
SCP 243	Power Plant Fundamentals
SCP 285	Wind Troubleshooting and Repair
SCP 288	Alternative Renewable Energy Basic Technical Skills
SCP 292	Wintec Blueprint Reading and Sketching
SCP 310	Power Plant Sciences
SCP 321	Wind Energy Mechanical Systems
SCP 322	Wind Turbine Material and Electro Mechanical Equipment
SCP 339	Electrical Generation and Distribution Equipment / Steam Turbines
SCP 340	Power Plant Components
SCP 354	Wind Turbine Mechanical Systems and Controls
SCP 408	Wind Instrumentation
SCP 445	Wind Turbine Material & Electro Mechanical Equipment
SCP 446	Wind Safety
SCP 493	Overview of Energy Resources



SCP 216 **Power Plant Operations**

Chapter #	Chapter Title
1	Transforming Energy into Work
2	Combustion and How It Works
3	Steam - The Primary Force
4	Boiler Operations
5	Power Plant Efficiency
6	Steam Generation
7	Boiler Maintenance
8	How Heat is Converted to Power
9	Turbines
10	Handling Water, Fuel, and Wastes
11	Boiler Instrumentation, Controls, and Safety

SCP 243 **Power Plant Fundamentals**

Chapter #	Chapter Title
1	Transforming Energy into Work
2	Combustion and How It Works
3	Boiler Operation
4	Boiler Maintenance
5	Boiler Instrumentation, Controls, and Safety
6	Steam Generation
7	Turbines
8	Power Plant Efficiency
9	Power Plant Operation and Control

SCP 285

Wind Troubleshooting and Repair

Chapter #	Chapter Title
1	Introduction to Troubleshooting
2	Troubleshooting Techniques
3	Preparing for Troubleshooting
4	Using Schematics and Diagrams
5	Symbols on Schematics
6	Electric Symbols
7	Electrical Diagrams
8	Troubleshooting with Electrical Schematics
9	Troubleshooting Combination Starters
10	Troubleshooting DC Motors
11	Troubleshooting AC Motors
12	Power Supplies and Power Conditioners
13	Troubleshooting Power Supplies
14	Planned Maintenance
15	Preventive Maintenance
16	Troubleshooting Guidelines
17	The Need for PM
18	Setting Up a PM Program
19	Scheduling PM

SCP 288

Alternative Renewable Energy Basic Technical Skills

Chapter #	Chapter Title
1	Working with Other People
2	Electrical Hazards
3	Electrical Safety Equipment
4	Electrical Safety Procedures
5	Grounding, Ground Faults, and Short Circuits
6	Forces and Motion
7	Work, Energy, and Power
8	Fluid Mechanics
9	Simple Machines
10	Hydraulic and Pneumatic Drawings
11	Troubleshooting with Electrical Schematics
12	Troubleshooting Control Circuits
13	Troubleshooting Control Devices
14	Troubleshooting DC Motors
15	Troubleshooting AC Motors
16	Saving Time in Troubleshooting
17	DC Generators
18	DC Motors
19	DC Armatures
20	Maintenance of DC Equipment

SCP 292

Wintec Blueprint Reading and Sketching

Chapter #	Chapter Title
1	Introduction to Blueprints
2	Machine parts
3	Machine Drawings
4	Building Drawings
5	Hydraulic and Pneumatic Drawings
6	Piping and Plumbing Drawings
7	Electrical Drawings
8	Sketching
9	Introduction to Schematics and Symbols
10	Symbols on Schematics
11	Electrical Symbols
12	Electrical Diagrams
13	Hydraulic and Pneumatic Symbols
14	Hydraulic and Pneumatic Diagrams

SCP 310 **Power Plant Sciences**

Chapter #	Chapter Title
1	Metric Measurement
2	Forces and Motion
3	Work, Energy, and Power
4	Fluid mechanics
5	Measuring Forces
6	Introduction to Electricity
7	Static Electricity
8	Current Electricity
9	Magnetism
10	Current, Resistance, and Potential Difference
11	Electrical Components
12	Conductors
13	DC Circuits
14	AC Circuits
15	Electronics
16	Heat, Pressure, and Change of State
17	Steam Generation
18	Introduction to Metals
19	Properties of Metals
20	Heat Treatment

SCP 321 **Wind Energy Mechanical Systems**

Chapter #	Chapter Title
1	Introduction to Metals
2	Properties of Metals
3	Standard Steels
4	Heat Treatment
5	Gears
6	Gear Drives
7	Adjustable-Speed Drives
8	Aligning Shafts
9	Shaft Coupling Devices
10	Clutches and Brakes

SCP 322

Wind Turbine Material and Electro Mechanical Equipment

Chapter #	Chapter Title
1	Working with Other People
2	Properties of Metals
3	Fasteners
4	Gears
5	Gear Drives
6	Principles of Lubrication
7	Characteristics of Lubricants
8	Electrical Hazards
9	Electrical Safety Equipment
10	Electrical Safety Procedures
11	Grounding, Ground Faults, and Short Circuits
12	Troubleshooting Electrical Schematics
13	Troubleshooting Control Circuits
14	Troubleshooting Control Devices
15	Troubleshooting DC Motors
16	Troubleshooting AC Motors
17	Saving Time in Troubleshooting
18	DC Generators
19	DC Motors
20	DC Armatures
21	Maintenance of DC Equipment
22	Metric Measurement

SCP 339

Electrical Generation and Distribution Equipment / Steam Turbines

Chapter #	Chapter Title
1	Electrical Power Fundamentals
2	Electrical Systems Analysis
3	Transforming Energy Into Work
4	Turbines
5	Boiler Instrumentation, Controls, and Safety
6	Air-Conditioning Systems

SCP 340

Power Plant Components

Chapter #	Chapter Title
1	Overview of Piping Systems
2	Metal Piping
3	Fluid Mechanics
4	Piping Accessories
5	Common Valves
6	Special Valves
7	Control Valves
8	Final Control Elements in Process Loops
9	Electric Actuators
10	Pneumatic and Hydraulic Actuators
11	Final Control
12	Uses of Pumps
13	Pump Hydraulics
14	End-Suction Centrifugal Pumps
15	Packings and Seals
16	Principles of Lubrication
17	Lubricant Characteristics
18	Storage and Handling
19	Strainers, Filters, and Traps
20	Pneumatic Principles
21	Reciprocating Compressors
22	Rotary Compressors
23	Refrigeration and Air-Conditioning Basics
24	Heat, Pressure, and Change of State
25	The Basic Refrigeration Cycle
26	Air Movement and Distribution
27	Fans and Fan Motors

SCP 354

Wind Turbine Mechanical Systems and Controls

Chapter #	Chapter Title
1	Gears
2	Gear Drives
3	Aligning Shafts
4	Electrical Hazards
5	Electrical Safety Equipment
6	Electrical Safety Procedures
7	Grounding, Ground Faults, and Short Circuits
8	Troubleshooting with Electrical Schematics
9	Troubleshooting Control Circuits
10	Troubleshooting Control Devices
11	Process Data Transmission Methods
12	Electrical Data Transmission

SCP 408

Wind Instrumentation

Chapter #	Chapter Title
1	The Nature of Process Control
2	Elements of Process Control
3	Process Control Signals
4	Introduction to Process Measurement
5	Principles of Transducer Operation
6	Basic Process Measurement Systems
7	Electrical Instruments
8	Principles of Pressure in Liquids and Gases
9	Pressure Transducers
10	Controller Operation
11	Electric Actuators

SCP 445

Wind Turbine Material & Electro Mechanical Equipment

Chapter #	Chapter Title
1	Working with Other People
2	Properties of Metals
3	Fasteners
4	Gears
5	Gear Drives
6	Principles of Lubrication
7	Characteristics of Lubricants
8	Electrical Hazards
9	Electrical Safety Equipment
10	Electrical Safety Procedures
11	Grounding, Ground Faults, and Short Circuits
12	Troubleshooting Electrical Schematics
13	Troubleshooting Control Circuits
14	Troubleshooting Control Devices
15	Troubleshooting DC Motors
16	Troubleshooting AC Motors
17	Saving Time in Troubleshooting
18	DC Generators
19	DC Motors
20	DC Armatures
21	Maintenance of DC Equipment
22	Metric Measurement

SCP 446
Wind Safety

Chapter #	Chapter Title
1	Introduction to Safety
2	Safety Laws
3	Personal Protective Equipment
4	Chemical Safety
5	Tool Safety
6	Safe Materials Handling
7	Machine Safety
8	Electrical Safety
9	Electrical Protection
10	Fire Protection
11	Health Protection
12	Safe Work Practices

SCP 493

Overview of Energy Resources

Chapter #	Chapter Title
1	Steam - The Primary Force How Heat is Converted to Power Power Plant Efficiency Handling Water, Fuel, and Wastes Power Plant Operation and Control
2	Transforming Energy into Work Boiler Operation Combustion and How It Works Steam Generation
3	Units of Measurement Metric Measurement Linear Measurement Measuring Temperature Measuring Fluids Measuring Electricity
4	Introduction to Blueprints Machine Parts Sketching
5	Introduction to Schematics and Symbols Symbols on Schematics Piping Diagrams
6	Introduction to Piping Systems Fittings Common Valves
7	Principles of Hydraulics
8	Pneumatic Principles
9	Turbines Electrical Power Fundamentals Electrical Systems Analysis

Fluid Power Custom Books

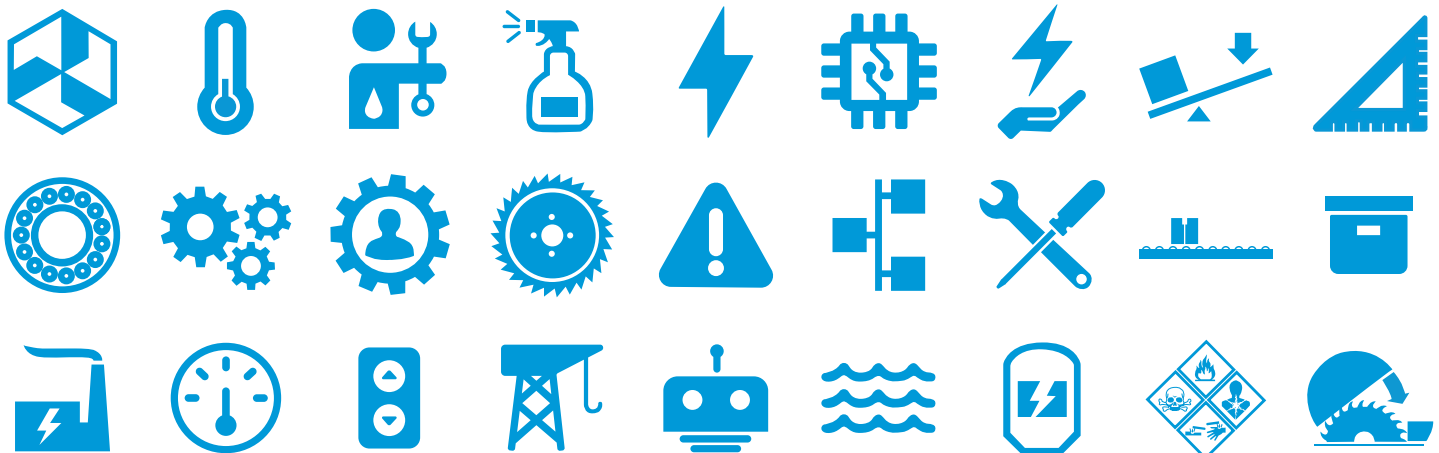
This list of already created Fluid Power custom books were created by other teaching professionals like you. Select a title from this catalog or create one of your own by choosing the specific lessons, from our full library of technical textbooks, that meet your specific curriculum requirements.

Need help determining the right custom book for your class? We can perform a curriculum match-up to our specific chapters that correspond with your syllabus and build a single, comprehensive textbook.

**Due to the customization of these titles, exam copies are subject to availability.*

Fluid Power Custom Books

SCP 215	Industrial Mechanics Fluid Power Guide
SCP 224	Industrial Maintenance Mechanics Centrifugal Pumps
SCP 259	Industrial Fluidpower
SCP 317	Fluid Systems
SCP 419	Hydraulic & Pneumatic Systems



SCP 215 **Industrial Mechanics Fluid Power Guide**

Chapter #	Chapter Title
1	Hydraulic and Pneumatic Drawings
2	Hydraulic and Pneumatic Symbols
3	Piping, Tubing, and Fittings
4	Maintaining Hydraulic Systems
5	System Troubleshooting (Hydraulics)
6	Principles of Pneumatics
7	Reciprocating Compressors
8	Primary Air Treatment
9	Secondary Air Treatment
10	System Maintenance
11	System Troubleshooting (Pneumatics)

SCP 224 **Industrial Maintenance Mechanics Centrifugal Pumps**

Chapter #	Chapter Title
1	Basic Pumping Concepts
2	Pump Hydraulics
3	End-Suction Centrifugal Pumps
4	Packings and Seals
5	Maintaining Packing and Seals
6	Maintaining Centrifugal Pumps
7	Overhauling Centrifugal Pumps

SCP 259
Industrial Fluidpower

Chapter #	Chapter Title
1	Principles of Hydraulics
2	Hydraulic Diagrams
3	Hydraulic Fluids
4	Strainers and Filters
5	Reservoirs and Accumulators
6	Hydraulic Pumps
7	Directional Control Valves
8	Pressure Control Valves
9	Hydraulic Cylinders
10	Hydraulic Motors
11	Maintaining Hydraulic Systems
12	System Troubleshooting
13	Principles of Pneumatics
14	Pneumatic Diagrams
15	Reciprocating Compressors
16	Rotary Compressors
17	Directional-Control Valves
18	Pressure-Control Valves
19	Pneumatic Cylinders
20	Pneumatic Motors
21	System Maintenance
22	System Troubleshooting

SCP 317
Fluid Systems

Chapter #	Chapter Title
1	Principles of Hydraulics
2	Hydraulic Diagrams
3	Selecting Hydraulic Fluids
4	Installing Piping and Tubing
5	Hydraulic Valve Troubleshooting
6	Hydraulic Cylinder Troubleshooting
7	Pump and Motor Troubleshooting
8	Maintaining Hydraulic Systems
9	Principles of Pneumatics
10	Pneumatic Diagrams
11	Installing Pneumatic Components
12	Pneumatic Valve Troubleshooting
13	Pneumatic Cylinder Troubleshooting
14	Compressor Troubleshooting
15	System Maintenance
16	Pneumatic and Hydraulic Troubleshooting

SCP 419 **Hydraulic & Pneumatic Systems**

Chapter #	Chapter Title
1	Introduction to Blueprints
2	Introduction to Schematics and Symbols
3	Symbols on Schematics
4	Hydraulic and Pneumatic Diagrams
5	Electrical Drawings
6	Electrical Symbols
7	Electrical Diagrams
8	Using Schematics and Diagrams
9	Troubleshooting with Electrical Schematics
10	Hydraulic and Pneumatic Symbols
11	Hydraulic and Pneumatic Diagrams
12	Principles of Hydraulics
13	Hydraulic Diagrams
14	Maintaining Hydraulic Systems
15	Principles of Pneumatics
16	Pneumatic Systems

Fundamentals Custom Books

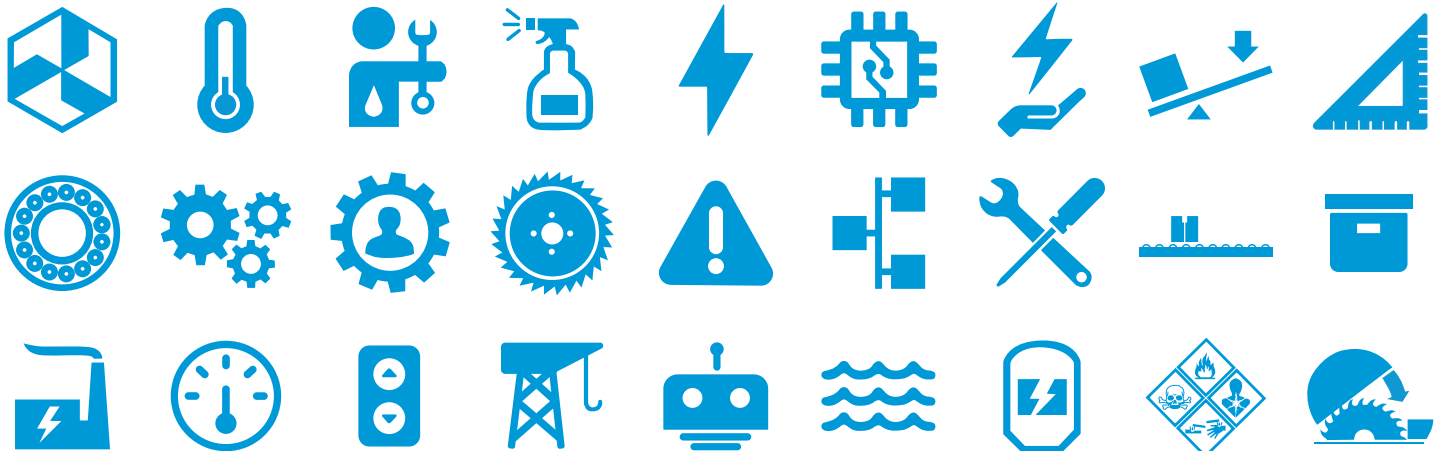
This list of already created Fundamentals custom books were created by other teaching professionals like you. Select a title from this catalog or create one of your own by choosing the specific lessons, from our full library of technical textbooks, that meet your specific curriculum requirements.

Need help determining the right custom book for your class? We can perform a curriculum match-up to our specific chapters that correspond with your syllabus and build a single, comprehensive textbook.

**Due to the customization of these titles, exam copies are subject to availability.*

Fundamentals Custom Books

SCP 231	Communication Skills in Manufacturing
SCP 232	Manufacturing Process
SCP 236	Technical Mathematics
SCP 256	Introduction to Shop Practices
SCP 260	Preventive maintenance
SCP 282	Maintenance Technician Training Volume II
SCP 308	Industrial Electronics Survey
SCP 311	Blueprint Reading for Carpentry
SCP 331	Preventative & Periodic Maintenance
SCP 349	Introduction to Maintenance
SCP 352	Introduction to Shop Practices
SCP 353	Reading Industrial Diagrams
SCP 383	Basic Hand Tools & Fasteners
SCP 472	Manufacturing & Blueprint Reading
SCP 491	Fundamentals of Engineering Technology
SCP 494	Introduction to Maintenance Procedures



SCP 231

Communication Skills in Manufacturing

Chapter #	Chapter Title
1	Introduction to Blueprints
2	Machine Drawings
3	Building Drawings
4	Hydraulic and Pneumatic Drawings
5	Electrical Drawings
6	Sketching
7	Introduction to Troubleshooting
8	Working with Other People
9	Troubleshooting Techniques
10	Aids to Troubleshooting
11	Preparing for Troubleshooting
12	Introduction to Metals
13	Plastics

SCP 232

Manufacturing Process

Chapter #	Chapter Title
1	Introduction to Nonmetals
2	Properties of Metals
3	Wrenches and Screwdrivers
4	Metalworking Tools
5	Hoisting and Pulling Tools
6	Electric Drills
7	Screwdrivers, Nutrunners, and Wrenches
8	Grinders and Shears
9	Tool Sharpening

SCP 236
Technical Mathematics

Chapter #	Chapter Title
1	Whole Numbers
2	Common Fractions
3	Decimal Fractions
4	Typical Units of Measurement
5	Ratios and Proportion
6	Powers and Roots
7	Metric Measurement
8	Geometry
9	Algebra
10	Using Formulas
11	Trigonometry
12	Linear Measurement
13	Volume Measurement

SCP 256
Introduction to Shop Practices

Chapter #	Chapter Title
1	Whole Numbers
2	Common Fractions
3	Decimal Fractions
4	Geometry
5	Using Formulas
6	Metric Measurement
7	Linear Measurement
8	Surface Measurement
9	Electric Drills
10	Electric Hammers
11	Pneumatic Drills and Hammers
12	Screwdrivers, Nutrunners, and Wrenches
13	Linear-Motion Saws
14	Circular Saws
15	Grinders and Shears
16	Tool Sharpening
17	Oxygen Cutting

SCP 260
Preventive maintenance

Chapter #	Chapter Title
1	The Need for PM
2	Setting Up a PM Program
3	Scheduling PM
4	Introduction to Troubleshooting
5	Working with Other People
6	Troubleshooting Techniques
7	Aids to Troubleshooting
8	Preparing for Troubleshooting
9	Using Schematics and Diagrams
10	Solving Mechanical Problems
11	Solving Electrical Problems
12	Breakdown Maintenance
13	Planned Maintenance
14	System Maintenance
15	Principles of Lubrication

SCP 282
Maintenance Technician Training Volume II

Chapter #	Chapter Title
1	Whole Numbers
2	Common Fractions
3	Decimal Fractions
4	Ratios and Proportion
5	Geometry
6	Algebra
7	Units of Measurement
8	Metric Measurement
9	Linear Measurement
10	Surface Measurement
11	Electrical Measurement
12	Grinders and Shears
13	Tool Sharpening
14	Fasteners
15	Principles of Lubrication
16	Oils
17	Greases
18	Storing and Handling Lubricants

SCP 308
Industrial Electronics Survey

Chapter #	Chapter Title
1	Robotics in Automated Manufacturing
2	Principles of Pneumatics
3	Principles of Hydraulics
4	Forces and Motion
5	Introduction to Programmable Logic Controllers
6	Motor Starters
7	The Nature of Process Control

SCP 311

Blueprint Reading for Carpentry

Chapter #	Chapter Title
1	Introduction to Blueprints
2	Sketching
3	Building Drawings
4	Piping and Plumbing Drawings
5	Electrical Drawings
6	Sheet Metal Drawings
7	Units of Measurement
8	Metric Measurement
9	Linear Measurement
10	Surface Measurement

SCP 331

Preventative & Periodic Maintenance

Chapter #	Chapter Title
1	Work Order Systems
2	Using Information Sources
3	The Need for PM
4	Setting Up a PM Program
5	Scheduling PM

SCP 349

Introduction to Maintenance

Chapter #	Chapter Title
1	Maintenance Planning and Operations
2	Work Order Systems
3	Controlling Backlog through Planning
4	Applying Work Standards
5	The Need for PM
6	Setting Up a PM Program
7	Scheduling PM
8	Controlling Work
9	Quality Control

SCP 352

Introduction to Shop Practices

Chapter #	Chapter Title
1	Metric Measurement
2	Linear Measurement
3	Surface Measurement
4	Electric Drills
5	Electric Hammers
6	Pneumatic Drills and Hammers
7	Screwdrivers, Nutrunners, and Wrenches
8	Linear-Motion Saws
9	Circular Saws
10	Grinders and Shears
11	Tool Sharpening
12	Fasteners
13	Threads and Threading
14	Oxygen Cutting

SCP 353

Reading Industrial Diagrams

Chapter #	Chapter Title
1	Introduction to Blueprints
2	Machine Parts
3	Machine Drawings
4	Sheet Metal Drawings
5	Introduction to Technical Diagrams
6	Symbols on Schematics
7	Electrical Symbols
8	Electrical Diagrams
9	Piping Symbols
10	Piping Diagrams
11	Hydraulic and Pneumatic Symbols
12	Hydraulic and Pneumatic Diagrams
13	Air Conditioning and Refrigeration Diagrams
14	Welding and Joining Symbols

SCP 383
Basic Hand Tools & Fasteners

Chapter #	Chapter Title
1	Introduction to Safety
2	Personal Protective Equipment
3	Tools Safety
4	Metal Working Tools
5	Layout Work and Shop Safety
6	Measuring Tools
7	Drilling and Boring
8	Threads and Threading
9	Wrenches and Screw Drivers
10	Electric Drills
11	Power Sawing
12	Fasteners
13	Electric Hammers

SCP 472
Manufacturing & Blueprint Reading

Chapter #	Chapter Title
1	Introduction to Blueprints
2	Shop math and Measurement
3	Lines and Views on Blueprints
4	Sketching
5	Advanced Shop Math and Measurement
6	Standard Steels
7	Machine Parts
8	Welding Symbols
9	Welds and Weld Joints
10	Welding and Joining Symbols

SCP 491
Fundamentals of Engineering Technology

Chapter #	Chapter Title
1	Ratios and Proportion
2	Powers and Roots
3	Algebra
4	Geometry
5	Trigonometry
6	Using Formulas
7	Metric Measurement
8	Scalars and Vectors
9	Motion Along a Straight Line
10	Acceleration
11	Current, Resistance, and Voltage
12	Introduction to Safety
13	Safety Laws
14	Introduction to Technical Drawings
15	Symbols on Schematics
16	Electrical Symbols
17	Piping Systems
18	Aids to Troubleshooting
19	Energy and Its Source
20	Working with Other People

SCP 494
Introduction to Maintenance Procedures

Chapter #	Chapter Title
1	Forces and Motion
2	Work, Energy, and Power
3	The Safe Use of Hand Tools
4	The Safe Use of Portable Power Tools
5	Fasteners
6	Machine Elements
7	Chain Drives
8	Belt Drives
9	Open Gear Drives
10	Enclosed Gear Drives
11	Drive Couplings
12	Plain Bearings
13	Installing Antifriction Bearings
14	Removing and Replacing Antifriction Bearings
15	Mounted Antifriction Bearings
16	Linear Motion Bearings and Shaft Seals
17	Maintaining Packing and Seals
18	Shaft Alignment
19	Lubrication
20	Bearing Maintenance
21	Lubrication Storage and Handling
22	Lubrication Management

HVAC & Refrigeration Custom Books

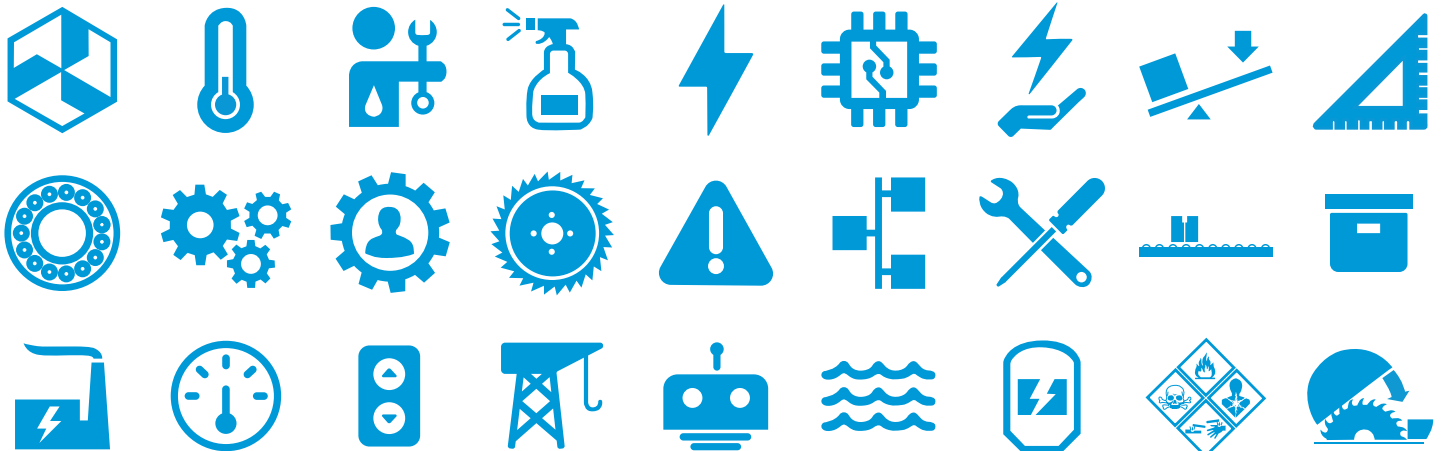
This list of already created HVAC & Refrigeration custom books were created by other teaching professionals like you. Select a title from this catalog or create one of your own by choosing the specific lessons, from our full library of technical textbooks, that meet your specific curriculum requirements.

Need help determining the right custom book for your class? We can perform a curriculum match-up to our specific chapters that correspond with your syllabus and build a single, comprehensive textbook.

**Due to the customization of these titles, exam copies are subject to availability.*

HVAC & Refrigeration Custom Books

SCP 235	HVAC Technician Training Heating Systems
SCP 238	Utilities System Operator Program (HRAC)
SCP 280	Commercial HVAC Fundamentals and Practices I
SCP 355	Utilities System Operator Program (HRAC)
SCP 397	Air Distribution Systems
SCP 470	HVACR Basics



SCP 235
HVAC Technician Training Heating Systems

Chapter #	Chapter Title
1	Personal Comfort and Heat Distribution Systems
2	Combustion
3	Chimneys and Venting
4	Gas Heating Equipment
5	Electric Heating Systems

SCP 238
Utilities System Operator Program (HRAC)

Chapter #	Chapter Title
1	Heat Energy
2	Hydronic Systems
3	Refrigeration and Air-Conditioning Basics
4	Heat, Pressure, and Change of State
5	The Basic Refrigeration Cycle
6	Introduction to Compressors
7	Cooling Towers and Spray Ponds
8	Ammonia Characteristics
9	Single-Stage Ammonia Systems

SCP 280

Commercial HVAC Fundamentals and Practices I

Chapter #	Chapter Title
1	Air Properties and Simple Psychrometrics
2	Air Movement and Distribution
3	Fans and Fan Motors
4	Air Filtration
5	Air System Balancing and Troubleshooting
6	Indoor Air Quality and Sick Building Syndrome
7	Cooling Towers and Spray Ponds
8	Evaporative Condensers
9	Direct-Expansion Evaporators and Secondary-Refrigeration Systems
10	Principles of Absorption Chiller Systems
11	Ammonia Refrigeration Characteristics
12	Single-Stage Ammonia Systems
13	Introduction to Control Systems
14	Sensors and Controlled Devices
15	Automatic Control Systems
16	Introduction to Semiconductors
17	Environmental Conditions
18	Printed Circuit Boards
19	Transistors and Integrated Circuits
20	Digital Logic Fundamentals
21	Introduction to Programmable Logic Controllers

SCP 355
Utilities System Operator Program (HRAC)

Chapter #	Chapter Title
1	Heat Energy
2	Hydronic Systems
3	Refrigeration and Air-Conditioning Basics
4	Heat, Pressure, and Change of State
5	The Basic Refrigeration Cycle
6	Introduction to Compressors
7	Cooling Towers and Spray Ponds
8	Introduction to Heat Pumps
9	Heat Pump Systems
10	Heat pump Components
11	Heat pump Controls
12	Ammonia Characteristics
13	Single-Stage Ammonia Systems

SCP 397
Air Distribution Systems

Chapter #	Chapter Title
1	Air Movement and Distribution
2	Fans and Fan Motors
3	Ductwork Types, Fabrication, and Repair
4	Air Filtration
5	Air-System Balancing and Troubleshooting
6	Indoor Air Quality and Sick Building Syndrome

SCP 470
HVACR Basics

Chapter #	Chapter Title
1	Heat Energy
2	Gas heating Equipment
3	Hydronic Systems
4	Introduction to Head Pumps
5	Heat Pump Systems
6	Transforming Energy into Work
7	Boiler Operation
8	Boiler Maintenance
9	Combustion and How it Works
10	Steam Generation
11	Refrigeration and Air-Conditioning Basics
12	Heat, Pressure, and Change of State
13	The Basic Refrigeration Cycle
14	Air Properties and Simple Psychrometrics
15	Air-Cooled Condensers
16	Water-Cooled Condensers
17	Cooling Towers and Spray Ponds
18	Evaporative Condensers
19	Air Movement and Distribution
20	Ductwork Types, Fabrication, and Repair

Instrumentation & Process Control Custom Books

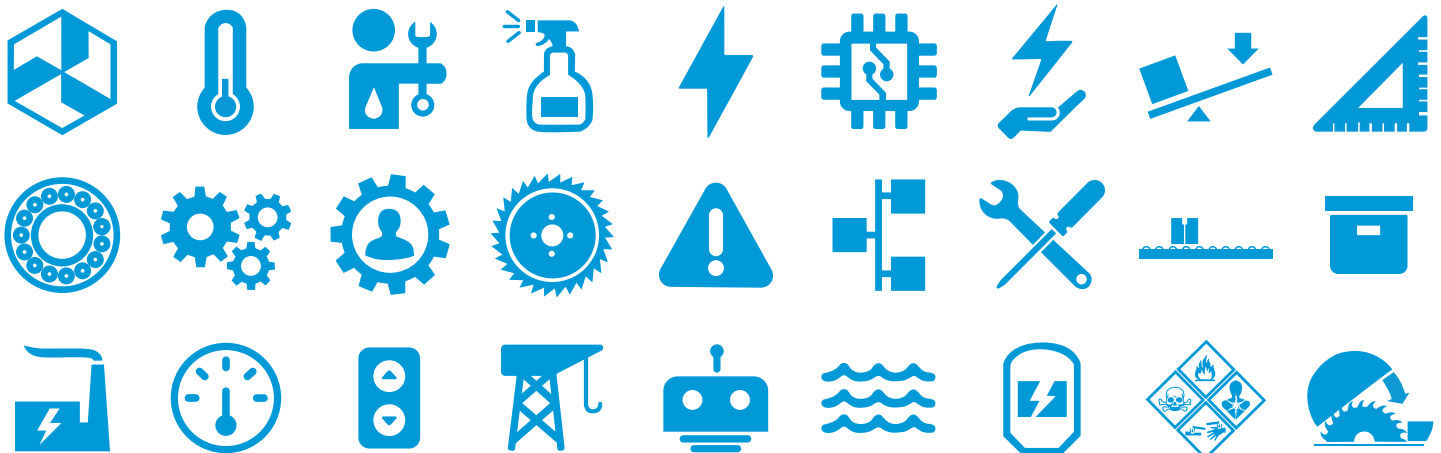
This list of already created Instrumentation & Process Control custom books were created by other teaching professionals like you. Select a title from this catalog or create one of your own by choosing the specific lessons, from our full library of technical textbooks, that meet your specific curriculum requirements.

Need help determining the right custom book for your class? We can perform a curriculum match-up to our specific chapters that correspond with your syllabus and build a single, comprehensive textbook.

**Due to the customization of these titles, exam copies are subject to availability.*

Instrumentation & Process Control Custom Books

SCP 222	Instrumentation Process Operator Level I
SCP 239	Automation and Control Technology Control System I
SCP 242	Industrial Instrumentation & Control
SCP 305	Process Measurement I & II
SCP 458	Industrial Basic Instrumentation
SCP 497	Introduction to Instrumentation



SCP 222

Instrumentation Process Operator Level I

Chapter #	Chapter Title
1	Principles of Pressure in Liquids and Gases
2	Pressure Sensors
3	Principles of Level Measurement
4	Primary Measuring Devices
5	Properties of Fluid Flow
6	Variable-Area Instruments
7	Temperature Measurement Principles and Indicators
8	Bimetallic and Fluid-Filled Temperature Instruments

SCP 239

Automation and Control Technology Control System I

Chapter #	Chapter Title
1	Introduction to Safety
2	Safety Laws
3	Temperature Measurement principles and Indicators
4	Bimetallic and Fluid-Filled Temperature Instruments
5	Electrical Instruments
6	Temperature Instrument Maintenance and Calibration
7	Principles of Pressure in Liquids and Gases
8	Pressure Sensors
9	Pressure Transducers
10	Low-Pressure Measurement
11	Installation and Service
12	Principles of Level Measurement
13	Electrical Instruments
14	Properties of Fluid Flow
15	Primary Measuring Devices
16	Secondary Measuring Devices
17	Variable-Area Instruments
18	Installation and Maintenance of Flow Instruments
19	Measuring Conductivity
20	Measuring pH and ORP
21	Optical Measurements
22	Process Data Transmission Methods
23	Electrical Data Transmission

SCP 242 Industrial Instrumentation & Control

Chapter #	Chapter Title
1	Process Control Signals
2	Basic Process Measurement Systems
3	Pressure Transducers
4	The Nature of Process Control
5	Principles of Transducer Operation
6	Secondary Flow Measuring Devices
7	Principles of Pressure in Liquids and Gases
8	Principles of Level Measurement
9	Pressure Sensors
10	Low-Pressure Measurement
11	Controller Operation
12	Controller Modes and Tuning
13	Introduction to Process Measurement
14	Pressure Head Instruments
15	Solid Level Measurement
16	Other Level Measurement Instruments
17	Electrical Level Instruments
18	Primary Flow Measuring Devices
19	Turbine and Magnetic Flowmeters
20	Variable-Area Instruments
21	Positive-Displacement Meters
22	Temperature Measurement Principles and Indicators
23	Bimetallic and Fluid-Filled Temperature Instruments
24	Electrical Instruments
25	Pyrometry
26	Loop Protection
27	Measuring pH and ORP
28	Optical Measurements
29	Chromatography
30	Measuring Conductivity
31	Fundamentals of Control Loops
32	Loop Dynamics
33	Control Loop Characteristics

SCP 305 Process Measurement I & II

Chapter #	Chapter Title
Part I	
1	Hydraulic and Pneumatic Symbols
2	Process Control Drawings
3	Using Symbols and Diagrams in Process Control
4	Principles of Pressure in Liquids and Gases
5	Pressure Sensors
6	Pressure Transducers
7	Low-Pressure Measurement
8	Installation and Service
9	Principles of Level Measurement
10	Electrical Instruments
11	Pressure Head Instruments
12	Solid Level Measurement
13	Other Level Measurement Instruments
14	Temperature Measurement Principles and Indicators
15	Bimetallic and Fluid-Filled Temperature Instruments
16	Electrical Instruments
17	Pyrometry
18	Temperature Instrument Maintenance and Calibration

SCP 305 Cont.
Process Measurement I & II

Chapter #	Chapter Title
Part II	
19	Properties of Fluid Flow
20	Primary Measuring Devices
21	Secondary measuring Devices
22	Variable-Area Instruments
23	Open-Channel Flow Devices
24	Positive-Displacement Meters
25	Turbine and Magnetic Flowmeters
26	Specialized Flowmeters
27	Metering the Flow of Solid Particles
28	Installation and Maintenance of Flow Instruments
29	Electrical Data Transmission
30	Digital Data Transmission
31	Optical Data Transmission
32	Data Transmission Interface
33	Final Control Elements in Process Loops
34	Electric Actuators
35	Pneumatic and Hydraulic Actuators
36	Control Valves
37	Final Control Element Applications

SCP 458 Industrial Basic Instrumentation

Chapter #	Chapter Title
1	Process Control Drawings
2	Using Symbols and Diagrams
3	Positive-Displacement
4	Principles of Transducer Operation
5	Variable-Area Instruments
6	Optical Measurement
7	Measuring Products of Combustion
8	Measuring Conductivity
9	Measuring pH and ORP
10	Principles of Pressure in Liquids and Gases
11	Pressure Sensors
12	Pressure Transducers
13	Low-Pressure Measurement
14	Pressure Head Instruments
15	Electrical Temperature Instruments
16	Temperature measurement Principles/Indicators
17	Bimetallic and Fluid-Filled Temperature Instruments
18	Principles of Level Measurement
19	Electrical Level Instruments
20	Solid Level Measurement
21	Other Level Measurement Instruments
22	Properties of Fluid Flow
23	Primary Flow Measuring Devices
24	Secondary Flow Measuring Devices
25	Turbine and Magnetic Flowmeters
26	Chromatography
27	Pyrometry
28	Introduction to Process Measurement
29	Basic Process Measurement Systems

SCP 497

Introduction to Instrumentation

Chapter #	Chapter Title
1	
Module 1	The Nature of Process Control
Module 2	Elements of Process Control
Module 3	Process Control Signals
Module 4	Process Control Drawings
Module 5	Using Symbols and Diagrams in Process Control
Module 6	Process Control Loop Operations
2	
Module 1	Introduction to Process Measurement
Module 2	Principles of Transducer Operation
Module 3	Basic Process Measurement Systems
Module 4	System Standards and Instrument Calibration
Module 5	Maintaining System Quality
3	
Module 1	Principles of Pressure in Liquids and Gases
Module 2	Pressure Sensors
Module 3	Pressure Transducers
Module 4	Low-Pressure Measurement
Module 5	Installation and Service
4	
Module 1	Forces, Stress, and Strain
Module 2	Weight and Mass Measurement
Module 3	Weighing Materials in Motion
Module 4	Position Measurement
Module 5	Acceleration, Vibration, and Shock

SCP 497 Cont.
Introduction to Instrumentation

Chapter #	Chapter Title
5	
Module 1	Properties of Fluid Flow
Module 2	Primary Measuring Devices
Module 3	Secondary Measuring Devices
Module 4	Variable-Area Instruments
Module 5	Open-Channel Flow Devices
Module 6	Positive Displacement Meters
Module 7	Turbine and Magnetic Flowmeters
Module 8	Specialized Flow
Module 9	Metering the Flow of Solid Particles
Module 10	Installation and Maintenance of Flow Instruments

Mechanical Technology Custom Books

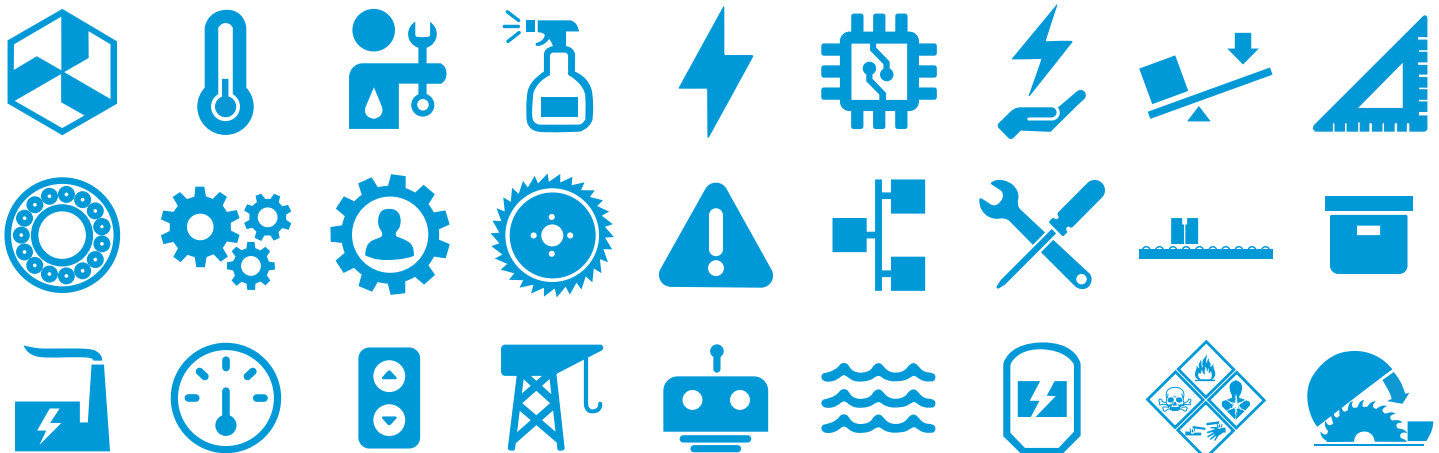
This list of already created Mechanical Technology custom books were created by other teaching professionals like you. Select a title from this catalog or create one of your own by choosing the specific lessons, from our full library of technical textbooks, that meet your specific curriculum requirements.

Need help determining the right custom book for your class? We can perform a curriculum match-up to our specific chapters that correspond with your syllabus and build a single, comprehensive textbook.

**Due to the customization of these titles, exam copies are subject to availability.*

Mechanical Technology Custom Books

SCP 201	Mechanical Drives and Installation
SCP 220	Piping Systems
SCP 228	Plumbing and Pipefitting
SCP 244	Principles of Industrial Pumps and Piping Systems
SCP 246	Industrial Maintenance Welding and Cutting Techniques
SCP 253	Preventive Maintenance
SCP 255	Industrial Pumps & Piping
SCP 286	Introduction to Maintenance and Shop Practices
SCP 301	Certified maintenance Technician III Volume I
SCP 304	Fabrication of Alloys
SCP 421	Lubrication, Rigging, and Fasteners
SCP 468	Industrial Equipment Troubleshooting



SCP 201

Mechanical Drives and Installation

Chapter #	Chapter Title
1	Belt Drives
2	Chain Drives
3	Gears
4	Gear Drives
5	Adjustable-Speed Drives
6	Aligning Shafts
7	Shaft Coupling Devices
8	Clutches and Brakes
9	Use of Pumps
10	Pump Hydraulics
11	End-Suction Centrifugal Pumps
12	Propeller and Turbine Pumps
13	Rotary Pumps
14	Reciprocating Pumps
15	Metering Pumps
16	Special-Purpose Pumps
17	Packings and Seals
18	Pump Maintenance
19	Principles of Pneumatics
20	Reciprocating Compressors
21	Rotary Compressors

SCP 220

Piping Systems

Chapter #	Chapter Title
1	Overview of Piping Systems
2	Metal Piping
3	Tubing
4	Hoses
5	Fittings
6	Common Valves
7	Special Valves
8	Strainers, Filters, and Traps

SCP 228

Plumbing and Pipefitting

Chapter #	Chapter Title
1	Pipe Drawings, Symbols, and Diagrams
2	Piping Introduction, Codes/Standards
3	Plumbing Introduction, Codes/Standards
4	Fluid Measurement
5	Piping Assembly and Layout
6	Fixtures
7	Water Supplies
8	Drains
9	Traps
10	Threads
11	Fittings
12	Seals
13	Valves
14	Reservoirs and Portable Water Distribution
15	Supply Lines

SCP 244

Principles of Industrial Pumps and Piping Systems

Chapter #	Chapter Title
1	Basic Pumping Concepts
2	Maintaining Packing and Seals
3	Maintaining Centrifugal Pumps
4	Overhauling Centrifugal Pumps
5	Maintaining Rotary Pumps
6	Piping Dimensions and Terminology
7	Threaded Piping Systems
8	Welded Piping Systems
9	Plastic Piping Systems
10	Pipefitting Accessories

SCP 246

Industrial Maintenance Welding and Cutting Techniques

Chapter #	Chapter Title
	<u>Welding Operations</u>
1	Fundamentals of Welding
2	Welding Safety
3	Oxyfuel Welding Equipment
4	Arc Welding Equipment
5	Welding Techniques
6	Avoiding Weld Faults
7	Welding Symbols
	<u>Oxyfuel Operations</u>
8	Welding Ferrous Metals
9	Welding Nonferrous Metals
10	Oxygen Cutting
11	Brazing and Soldering
12	Surfacing Techniques
	<u>Arc Welding Operations</u>
13	Shielded Metal Arc Welding
14	Selecting Electrodes for SMAW
15	Gas Metal Arc Welding
16	Gas Tungsten Arc Welding
17	Preheating and Postheating
18	Welding Ferrous Metals
19	Welding Nonferrous Metals

SCP 253
Preventive Maintenance

Chapter #	Chapter Title
1	The Need for PM
2	Setting up a PM Program
3	Scheduling PM
4	Principles of Lubrication
5	Characteristics of Lubricants
6	Types of Lubricants
7	Oils
8	Greases
9	Special Greases and Dry Lubricants
10	Lubrication Systems
11	Storing and Handling Lubricants
12	Lubrication Management
13	Chain Drives
14	Belt Drives
15	Open Gear Drives
16	Enclosed Gear Drives
17	Drive Couplings
18	Maintaining Packing and Seals
19	Maintaining Centrifugal Pumps
20	Overhauling Centrifugal Pumps
21	Maintaining Rotary Pumps
22	System Maintenance
23	Pneumatic System Troubleshooting
24	Maintaining Hydraulic Systems
25	Hydraulic System Troubleshooting

SCP 255 Industrial Pumps & Piping

Chapter #	Chapter Title
	<u>Pumps</u>
1	Use of Pumps
2	Pump Hydraulics
3	End-Suction Centrifugal Pumps
4	Propeller and Turbine Pumps
5	Rotary Pumps
6	Reciprocating Pumps
7	Metering Pumps
8	Special-Purpose Pumps
9	Packings and Seals
10	Pump Maintenance
	<u>Piping</u>
11	Overview of Piping Systems
12	Metal Piping
13	Nonmetallic Piping
14	Tubing
15	Hoses
16	Fittings
17	Common Valves
18	Special Valves
19	Strainers, Filters, and Traps
20	Piping Accessories

SCP 286

Introduction to Maintenance and Shop Practices

Chapter #	Chapter Title
1	Bearings and Shafts
2	Bearing Seals and Lubrication
3	Bearing Maintenance
4	Use of Pumps
5	Blueprint Reading
6	Piping Systems
7	Work Order Systems
8	The Need for PM
9	Setting Up a PM Program
10	Scheduling PM
11	Fasteners
12	Threads and Threading
13	Oxygen Cutting

SCP 301
Certified maintenance Technician III Volume I

Chapter #	Chapter Title
1	Lubrication Management
2	Gears
3	Gear Drives
4	Adjustable-Speed Drives
5	Shaft Coupling Devices
6	Clutches and Brakes
7	Reciprocating Pumps
8	Metering Pumps
9	Special-Purpose Pumps
10	Hoses
11	Fittings
12	Common Valves
13	Special Valves
14	Strainers, Filters, and Traps
15	Accessories
16	Planning System Maintenance
17	Troubleshooting Systems
18	Troubleshooting Valves
19	Troubleshooting Cylinders
20	Troubleshooting Pumps and Motors
21	Pressure-Control Valves
22	Pneumatic Cylinders
23	Pneumatic Motors and Rotary Actuators
24	Pneumatic Systems
25	Pneumatic Schematic Diagrams
26	Installation of System Components
27	System Maintenance
28	Determining System Failures
29	Troubleshooting Air Compressors
30	Troubleshooting Control Valves
31	Troubleshooting Cylinders
32	Troubleshooting Air Motors
33	Pneumatic/Hydraulic Systems

SCP 304
Fabrication of Alloys

Chapter #	Chapter Title
1	Introduction to Metals
2	Properties of Metals
3	Manufacturing Processes
4	Iron and Steel
5	Standard Steels
6	Heat Treatment
7	Copper
8	Aluminum
9	Magnesium
10	Lead, Nickel, Tin, and Zinc
11	Avoiding Welding Faults
12	Welding Symbols
13	Surfacing Techniques
14	Other Welding Processes
15	Preheating and Postheating
16	Welding Ferrous Metals
17	Welding Nonferrous Metals
18	Hard Facing and Rebuilding

SCP 421

Lubrication, Rigging, and Fasteners

Chapter #	Chapter Title
1	Working with Other People
2	Metric Measurement
3	Fasteners
4	Electric Drills
5	Pneumatic Drills and Hammers
6	Principles of Lubrication
7	Characteristics of Lubricants
8	Fluid Mechanics
9	Introduction to Industrial Rigging
10	Wire Rope and Wire-Rope Slings
11	Chain and Metal-Mesh Slings
12	Fiber Rope and Webbing Slings
13	Industrial Hoists and Cranes
14	Operating Practices

SCP 468

Industrial Equipment Troubleshooting

Chapter #	Chapter Title
1	Troubleshooting with Electrical Schematics
2	Troubleshooting with Building Drawings
3	Troubleshooting with Control Circuits
4	Troubleshooting with Combination Starters
5	Troubleshooting Control Device
6	Troubleshooting AC Motors
7	Troubleshooting Lighting Systems
8	Saving Time in Troubleshooting
9	Troubleshooting Systems
10	Troubleshooting Pumps and Motors
11	Troubleshooting Air Compressors

Mechatronics Custom Books

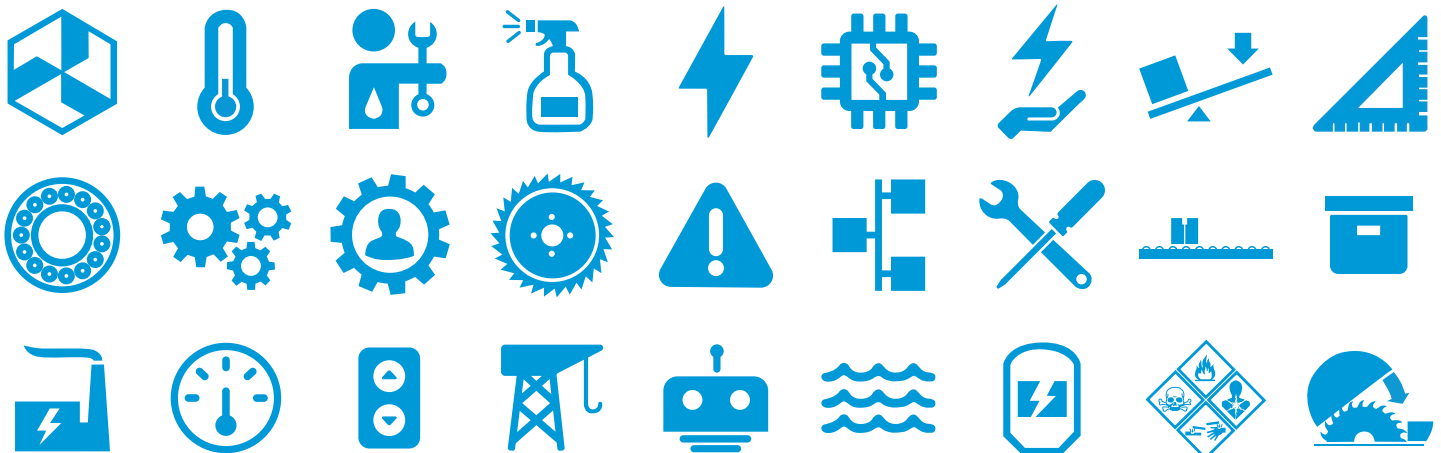
This list of already created Mechatronics custom books were created by other teaching professionals like you. Select a title from this catalog or create one of your own by choosing the specific lessons, from our full library of technical textbooks, that meet your specific curriculum requirements.

Need help determining the right custom book for your class? We can perform a curriculum match-up to our specific chapters that correspond with your syllabus and build a single, comprehensive textbook.

**Due to the customization of these titles, exam copies are subject to availability.*

Mechatronics Custom Books

SCP 207	Electromechanics and Pneumatics
SCP 226	Industrial Maintenance
SCP 237	Fundamentals of Industrial Machinery
SCP 245	Tools and Instruments for Technicians
SCP 250	Introduction to Power Technology
SCP 254	Mechanical and Electrical Readings
SCP 275	Electromechanical Devices
SCP 478	Introduction to Automation
SCP 490	Introduction to Mechatronics
SCP 498	Automated Production Concepts I
SCP 499	Advanced Production Concepts II



SCP 207

Electromechanics and Pneumatics

Chapter #	Chapter Title
1	DC Motors
2	DC Electromagnets
3	DC Relays
4	DC Controllers
5	DC Power Supplies
6	Silicon Controlled Rectifiers
7	Motor Starters
8	Switches and Controls
9	Limit Switches
10	Special Control Switches
11	Control Relays
12	Equipment for Hazardous Locations
13	Principles of Pneumatics
14	Primary Air Treatment
15	Secondary Air Treatment
16	Piping, Hoses, and Tubing
17	Directional Control Valves
18	Pressure Control Valves
19	Pneumatic Cylinders
20	Pneumatic Motors
21	Pneumatic Diagrams
22	Installing Pneumatic Components
23	System Troubleshooting
24	Valve Troubleshooting
25	Cylinder Troubleshooting

SCP 226 **Industrial Maintenance**

Chapter #	Chapter Title
1	Basic Blueprint Reading
2	Measurements and Tools
3	Carpentry Products
4	Power Transmission Efficiency
5	Plumbing Maintenance
6	Electrical Troubleshooting
7	Standard Steels
8	Fasteners
9	Bearing Maintenance
10	Bearings, Shaft Seals, Packing and Seals
11	Rigging Techniques
12	Pump and Motor Troubleshooting
13	Air Compressor Troubleshooting
14	Hydraulic/Pneumatic Troubleshooting
15	Installing Machinery and Equipment

SCP 237 **Fundamentals of Industrial Machinery**

Chapter #	Chapter Title
1	Electrical Safety
2	Multimeters
3	Electrician's Tools
4	Introduction to Process Control
5	Control Loops
6	Introduction to Programmable Logic Controllers
7	Machine Elements
8	Pneumatic Diagrams
9	Hydraulic Diagrams
10	Bearings and Shafts
11	Chain Drives
12	Belt Drives

SCP 245

Tools and Instruments for Technicians

Chapter #	Chapter Title
1	Measuring Tools
2	Wrenches and Screwdrivers
3	Electrician's Tools
4	Metalworking Tools
5	Hoisting and Pulling Tools
6	Electrical Hazards
7	Electrical Safety Equipment
8	Electrical Safety Procedures
9	Grounding, Ground Faults, and Short Circuits
10	Fuses and Circuit Breakers

SCP 250

Introduction to Power Technology

Chapter #	Chapter Title
1	Steam - The Primary Force How Heat is Converted to Power Power Plant Efficiency Handling Water, Fuel, and Wastes Power Plant Operation and Control
2	Transforming Energy into Work Boiler Operation Combustion and How it Works Steam Generation
3	Introduction to Safety and Health Chemical Safety Working Safely with Electricity Electrical Equipment Safety
4	Units of Measurement Metric Measurement Linear Measurement Measuring Temperature Measuring Fluids Measuring Electricity
5	Introduction to Blueprints Machine Parts Sketching
6	Introduction to Schematics and Symbols Symbols on Schematics Piping Diagrams
7	Introduction to Piping Systems Fittings Common Valves

SCP 250 cont.
Introduction to Power Technology

Chapter #	Chapter Title
8	Principles of Hydraulics
9	Pneumatic Principles
10	Turbines Electrical Power Fundamentals Electrical Systems Analysis
Appendix A	Ratios and Proportion Powers and Roots Calculators Geometry Algebra Trigonometry

SCP 254
Mechanical and Electrical Readings

Chapter #	Chapter Title
1	Forces and Motion
2	Work, Energy, and Power
3	Fluid Mechanics
4	Simple Machines
5	Machine Elements
6	Scalars and Vectors
7	Solving Problems in DC Circuits
8	Multimeters
9	DC Series Circuit
10	Parallel Circuits
11	Series-Parallel Circuits
12	DC Circuits in Use

SCP 275 **Electromechanical Devices**

Chapter #	Chapter Title
1	Forces and Motion
2	Work, Energy, and Power
3	Simple Machines
4	Machine Elements
5	Friction and Wear
6	Bearings and Shafts
7	Operation of Journal Bearings
8	Ball and Roller Bearings
9	Bearing Seals
10	Belt Drives
11	Gear Drives

SCP 478 **Introduction to Automation**

Chapter #	Chapter Title
1	The Nature of Process Control
2	Elements of Process Control
3	Robotics in Automated Manufacturing
4	The Basic Robot System
5	Robot Classification II

SCP 490
Introduction to Mechatronics

Chapter #	Chapter Title
1	Introduction to Safety
2	Tool Safety
3	Machine Safety
4	Units of Measurement
5	Metric Measurement
6	Linear Measurement
7	Surface Measurement
8	Bulk Measurement
9	Motion Measurement
10	Introduction to Blueprints
11	Building Drawings
12	Hydraulic and Pneumatic Drawings
13	Principles of Hydraulics
14	Principles of Pneumatics
15	Introduction to Programmable Logic Controllers
16	Robotics in Automated Manufacturing
17	The Basic Robot System

SCP 498

Automated Production Concepts I

Chapter #	Chapter Title
1	
Module 1	Introduction to Single-Phase Motors
Module 2	Split-Phase Motors
Module 3	Capacitor Motors
Module 4	Repulsion Motors
Module 5	Synchros
Module 6	Servos
2	
Module 1	DC Power in Industry
Module 2	DC Generators
Module 3	DC Motors
Module 4	DC Armatures
3	
Module 1	Introduction to Controllers
Module 2	Controller Operation
Module 3	Controller Modes and Tuning
Module 4	Special Controller Application & Operation
Module 5	Maintaining Controller Systems
4	
Module 1	DC Electromagnets
Module 2	DC Relays
Module 3	DC Controllers
Module 4	DC Power Supplies
Module 5	Silicon Controlled Rectifiers
5	
Module 1	Motor Installation
Module 2	Motor Maintenance
Module 3	Maintenance of DC Equipment

SCP 499

Advanced Production Concepts II

Chapter #	Chapter Title
1	
Module 1	History and Overview
Module 2	Small Computers in Process Control
Module 3	DCS Architecture
Module 4	DCS Configuration and Operation
Module 5	Systems and Applications Integration
2	
Module 1	Digital Logic Fundamentals
Module 2	Logic Building Blocks
Module 3	Medium- and Large-Scale IC's
Module 4	Functional Logic Systems
Module 5	Troubleshooting Logic Systems
3	
Module 1	Robotics in Automate Manufacturing
Module 2	The Basic Robot System
Module 3	Robot Classification I
Module 4	Robot Classification II
4	
Module 1	Work-Cell Sensors
Module 2	End-Arm-Tooling
Module 3	Robot Teaching and Programming