

San Bernardino Community College District
INTECH Training Center, Fontana, CA
200 Hour Mechanical Craft Program-Internship
Proposed Curriculum

Topic	Hours
Power Transmission	40

(Taught with Bearings, Seals, & Lubrication)

Instructor: _____

- Introduction to Power Transmissions
- Belt power transmission
- Gear trains
- Gearing
- Link mechanisms
- Mechanical power transmission
- Servomechanisms
- Vibration analysis & control
- Shaft alignment
- Cams
- Brakes
- Clutches
- Troubleshooting techniques

Comments/ Suggestions:

Rigging	24
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Instructor: _____

- Introduction to rigging
- Lifting chains
- Slings & straps
- Estimating load weights
- Load rating
- Leverage
- Weight & balance
- Signals
- Determining center of gravity
- Inspection techniques
- load handling and safety practices

Comments/ Suggestions:

Pumps- Basics

24

Instructor: _____

- Introduction to pumps
- Introduction to compressors
- Introduction to dryers and blowers
- Types of pumps
- Positive displacement
- Seals and packing
- Tanks and piping
- Servo controlled pumps
- Pump troubleshooting
- Pump parts
- Disassembly and assembly

Comments/ Suggestions:

Print Reading

32

Instructor: _____

- Elements of print reading
- Types of drawings - shop prints, facility/site/civil, machining prints, mechanical prints, schematics, including assembly and sub assembly of /BOMs, fabrication; understanding dimensions, views/projections, scales, symbols and hidden detail
- Basic drafting and sketching

Comments/ Suggestions:

Lubrication / Central Lube

8

Instructor: _____

- An introduction to lubrication
- Oil and greases
- Types & grades
- Applications
- Automatic grease systems
- Oil mist systems

Comments/ Suggestions:

Hydraulics & Pneumatics

64

Instructor: _____

- Introduction to fluid power and technology
- The physics of fluid power
- Transmission and storage of energy
- Components and summary of fluid power.
- Physics of hydraulics

Comments/ Suggestions:

Hydraulics & Pneumatics-Cont.

Instructor: _____

- Hydraulic transmission of energy
- Linear and rotary actuators
- Hydraulic pumps
- Reservoirs
- Accumulators
- coolers and filters
- Directional control valves
- Pressure/control valves
- Proportional and servo controls
- Fluid mechanics.
- Hydraulic and pneumatic schematics/drawings
- Power transmission problems and troubleshooting
- Build a circuit

Comments/ Suggestions:

Piping

8

Instructor: _____

- Introduction to industrial plumbing & pipefitting

Comments/ Suggestions:

Total 200

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