



South Central College

MECA 1220 Mechanical Systems

Common Course Outline

Course Information

Description This course includes an introduction to mechanical drive systems, power transmission systems, chain drives, v-belt and, multiple shaft drives, linear motion assemblies, and auxiliary control functions. The student will study the application of spur, helical, bevel and worm gears as well as the use of keys, pins, and splines to attach gears to shafts. Machine elements such as; displacement, velocity, acceleration, springs, power screws, brakes and clutches will also be topics covered. Computer simulation and 3D software will be used throughout the course. Troubleshooting of mechanical systems will be emphasized. Technical writing skills and safety procedures will be implemented throughout the course.

Total Credits 3

Total Hours 64

Types of Instruction

Instruction Type

Credits/Hours

Lecture

Lab

Course Outcomes

1. Use Linear Bearings

Learning Objectives

Describe Linear Bearings in a Mechanical System
Identify Linear Bearings Types
Select Linear Bearings
Use Linear Bearings in a Mechanical System

2. Use Gaskets and Seals

Learning Objectives

Describe Gasket and Seals in a Mechanical System
Identify Gasket and Seal Material Types
Select Gasket and Seal Material
Use Gaskets and Seals in a Mechanical System

3. Use Clutches

Learning Objectives

Analyze Clutches in a Mechanical System
Describe the Purpose of Clutches in a Mechanical System
Select Clutch Type
Use Clutches in a Mechanical System

4. Use Breaks

Learning Objectives

Analyze Breaks in a Mechanical System
Identify Break Material Types
Select Breaking Type
Use Breaks in a Mechanical System

5. Understand Vibration Metering

Learning Objectives

Identify Unbalanced System
Explain Acceleration
Explain Velocity
Correct Unbalanced System

SCC Accessibility Statement

Disability Services provides accommodations and other supports to students with permanent and temporary disabilities that affect their SCC experience. Disabilities may include mental health (anxiety, depression, PTSD), ADHD, learning disabilities, chronic health conditions (migraine, fibromyalgia), sensory disabilities, and temporary disabilities (broken arm, surgery). Common accommodations are extended test time, private room for testing, audiobooks, and sign language interpreter. Uchronic m2ooks, a0 6g, audiobookroniscing