

MFG 254 : MANUFACTURING JIGS AND FIXTURES

Transcript title

Manufacturing Jigs Fixtures

Credits

2

Grading mode

Standard letter grades

Total contact hours

60

Lab hours

60

Prerequisites

instructor approval.

Recommended preparation

MFG 100.

Course Description

Jig and fixture design practices. Includes clamps, locators, degrees of freedom, radial and conical locators, templates, automated clamping and modular fixturing.

Course learning outcomes

1. Student will differentiate between jig and fixture work holding tools.
2. Student will incorporate locator buttons, bushings and liners into drilling jig designs.
3. Student will design fixtures that restrict the 12 degrees of work piece freedom.
4. Student will design a fixture incorporating the 3-2-1 work piece locating principle.
5. Student will select clamping devices based on fixturing and process requirements.
6. Student will setup a modular fixturing plate for machining operations.
7. Student will identify at least three different locating methods that can provide correctly referenced work piece restraint.