# 11/8/2020

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 3 September 2020

Term and Year of Implementation: Spring 2021

**Course Title:** Millwright Level 2 Part 1

**BRCC Course Rubric:** MILL 1216

**Previous Course Rubric**: MILL 1213 and MILL 1223

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 2-8-6

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 30-120-150

**Louisiana Common Course Number:**

**CIP Code:** 47.0303

**Course Description:** Covers the National Center for Construction Education and Research (NCCER) Millwright Level 2 Modules 1 – 6. Successful completion of this course requires passing the NCCER Level 2 Modules 1 – 6 Exams with a 70% or higher. This course requires an exam fee.

**Prerequisites:**  MILL 1119

**Co-requisites:** None

**Suggested Enrollment Cap:** 20

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Solve basic algebra, proportion, area, volume, circumference, and circular speed problems.

2. Sketch straight lines, angles, arcs, circles, ellipses, and dimensions.

3. Interpret schematic drawings and isometric drawings.

4. Demonstrate safe use and maintenance of drill presses, hydraulic presses, pipe threading machines, nibblers, Bandsaws, belt sanders, keyseaters, key broaches, bearing heaters, drills.

5. Inspect rigging equipment.

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Practical demonstrations and skills performances

2. Quizzes and tests

3. NCCER Millwright Level 2 Modules 1 – 6 Exams

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

I. Intermediate Trade Math

A. Measuring and Using Tables and Formulas

a. Special Measuring Devices

b. Using Tables

c. Using Ratios and Proportions

d. Using Formulas

B. Solving Area Problems

a. Rectangles

b. Triangles

c. Circles

C. Solving Volume Problems

a. Rectangular Solids

b. Cylinders

c. Spheres

d. Pyramids

e. Cones

D. Circumference Problems, Right Triangles, and Weights

a. Solving Circumference Problems

b. Pythagorean Theorem

c. Calculating the Weight of an Object

II. Field Sketching

A. Sketching Straight Lines, Angles, Arcs, and Circles

a. Sketching Straight Lines

b. Sketching Angles

c. Sketching Arcs and Circles

B. Sketching Ellipses and Dimensions

a. Sketching Ellipses

b. Sketching Dimensions

C. Orthographic and Pictorial Sketches

a. Orthographic Sketches

b. Oblique Sketches

c. Isometric Sketches

III. Intermediate Blueprint Reading

A. Orthographic Projections

a. Orthographic Projections

B. Interpreting Schematic Drawings

a. Interpreting Schematic Drawings

b. Piping Schematics

c. Hydraulic and Pneumatic Schematics

C. Interpreting Isometric Drawings

a. Interpreting Isometric Drawings

IV. Specialty Tools

A. Multipliers, Cutters, and Splitters

a. Torque Multipliers

b. Cable Cutters

c. Nut Splitters

d. Keyseat Rules

B. Gauges

a. Non-Precision Depth Gauges

b. Bevels

c. Telescoping Gauges

d. Radius Gauges

e. Drill Gauges

f. Thickness Gauge Stock

g. Plasti-Gauge

C. Testers

a. Ultrasonic Thickness Detectors

b. Profilometer

c. Hardness Tester

V. Millwright Power Tools

A. Safety and Drill Presses

a. Power Tool Safety

b. Drill Presses

B. Hydraulic Presses

a. Hydraulic Presses

C. Pipe Threading Machines

a. Loading Pipe

b. Cutting and Reaming Pipe

c. Threading Pipe

d. Using a Geared Threader

D. Nibblers and Belt Sanders

a. Nibblers

b. Belt Sanders

E. Bandsaws, Key Broaches, and Bearing Heaters

a. Bandsaws

b. Key Broaches

c. Bearing Heaters

F. Precision Drilling

a. Work Holding Devices

b. Drills

c. Precision Drilling

VI. Rigging

A. Rigging Hardware

a. Rigging Hardware and Equipment

B. Slings and Tag Lines

a. Slings

b. Tag Lines

C. Hoists

a. Chain Hoists

b. Ratchet-Lever Hoists and Come-Alongs

c. Jacks

d. Tuggers

D. Communication and Safety

a. Methods of Communication

b. General Rigging Safety

c. Working Around Power Lines

d. Site Safety

e. Emergency Response

E. Lifting Loads

a. Using Cranes to Lift Personnel

b. Lift Planning

c. Crane Load Charts

d. Load Balancing

F. Rigging and Unloading

a. Rigging Pipe

b. Rigging Valves

c. Guidelines for Unloading and Yarding Materials