

Bossier Parish Community College  
Master Syllabus

**Course Prefix and Number:** TEED 145

**Credit Hours:** 3-3-0

**Course Title:** Industrial Mechanical Theory I

**Course Prerequisite or Co-Requisite:** MATH 102 or MATH 129

**Textbook(s):** None

**Course Description:** A course designed for industrial skilled trades apprentices. Content includes machinery and equipment installation, mechanical power transmission belt, gear, and chain drives, couplings, packs and seals, bearings, mechanical fasteners, pipe fittings, and valves.

**Learning Outcomes:**

At the end of the course, the student will:

- A. interpret and explain drawings and sketches to describe physical arrangement and functionality of mechanical devices and equipment;
- B. accurately measure physical parameters such as threads per inch, dimensions, alignment, gearing and the like to support analysis and troubleshooting of mechanical systems;
- C. convert measurements of physical data into properly scaled graphs to support analysis and troubleshooting of mechanical systems;
- D. interpret and apply technical information contained in construction drawings or schematic diagrams; and
- E. properly interpret job instructions (function, materials, and schedule) and make reasonable estimates of material and labor associated with practical work situations.

To achieve the learning outcomes, the student will or will be able to:

(The letter designations at the end of each statement refer to the learning outcome(s).)

1. use drawing and sketching to describe mechanical objects; (A), (D)
2. describe different methods of installing machinery and equipment; (A), (B), (C), (D)
3. identify different methods of mechanical power transmission; (A), (B), (C), (D)
4. describe proper selection of use of V-belt drives; (A), (B), (C), (D)
5. describe proper selection and use of flat belts; (A), (B), (C), (D)
6. calculate pitch, diameter, and center distances on gears; (A), (B), (C), (D)
7. describe different methods of installation, maintenance of chain drives and sprockets; (A), (B), (C), (D)
8. identify different types of couplings; (A), (B), (C), (D)
9. identify different types of packing and seals used in mechanical processes; (A), (B), (C), (D)
10. describe different types of bearing and their applications; (A), (B), (C), (D)

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11. describe different types of structural steel used in construction; (A), (B), (C), (D)
12. identify different screw threads and thread designations; (A), (B), (C)
13. list ten different mechanical fasteners; (A), (B), (C), (D)
14. identify and describe five different pipe fittings; (A), (B), (C), (D) and
15. estimate materials and labor for jobs. (E)

**Course Requirements:** Complete all homework assignments, lecture tests, lab exercises and final exam.

**Course Grading Scale:**

90 – 100 = A  
80 – 89 = B  
70 – 79 = C  
60 – 69 = D  
0 – 59 = F

**Attendance Policy:** The college attendance policy is available at  
<http://catalog.bpcc.edu/content.php?catoid=5&navoid=369>

**Course Fees:** N/A

**Nondiscrimination Statement:** Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

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