

Bossier Parish Community College  
Master Syllabus

**Course Prefix and Number:** CONS 205

**Credits:** 3-3-0

**Course Title:** Mechanical, Electrical and Plumbing Systems

**Course Prerequisite:** CONS 101 and CONS 102

**Textbook(s):** Richard R. Janis, William Tao & Associates, Inc. William K. Y. Tao, Tao & Lee Associates, Mechanical & Electrical Systems in Buildings, 4<sup>th</sup> edition. Prentice Hall, 2014.  
ISBN: 9780138015626

**Course Description:** An overview of the mechanical, electrical, and plumbing systems commonly used in multi-story commercial buildings. The course presents the fundamentals of air conditioning, heating, plumbing, and lighting, along with electrical/communications wiring and equipment. Specialty equipment for energy-efficient construction is introduced.

**Learning Outcomes:**

At the end of this course, the student will:

- A. develop an understanding of the properties, functions, and construction implications of the mechanical systems of a building; including heating, ventilations and air conditioning systems and plumbing systems;
- B. develop an understanding of the properties, functions, and construction implications of the electrical systems of a building; including illumination, electrical systems, and electrical energy conservation;
- C. learn to read the construction documents and specifications for the mechanical and electrical systems;
- D. learn the basic building code references for mechanical and electrical systems;
- E. learn the steps and processes for installation and start-up operations for the mechanical and electrical systems;
- F. learn the firefighting, lifesaving, and security installations basics in the construction systems; and
- G. learn the heating and cooling processes used within the construction process.

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

- 1. define terminology and measurement principles used in the Mechanical Systems in the construction process (A);
- 2. define the terminology and measurement principles used in the Electrical Systems in the construction process (B);
- 3. define the terminology and measurement principles used in the Plumbing Systems in the construction process (A);
- 4. list different types of mechanical, electrical, and plumbing materials (A, B, C);
- 5. describe the basic procedure for the installation of the mechanical, electrical and plumbing systems (E);

6. identify any associated support equipment used in the mechanical, electrical and plumbing systems (D, E);
7. identify and described the basic firefighting, lifesaving and security systems used in building construction (F);
8. identify and described the basic communications and access options (D, E);
9. identify various standards used in the illumination systems and processes and be able to determine which system will be best utilized (B); and
10. identify and described the heating and cooling process used in building systems and be able to determine the capacity of each system needed (G).

**Course Requirements:** Complete all homework assignments, in-class equipment exercises, lecture tests, and final exams.

**Course Grading Scale:**

90% to 100%	= A
80% to < 90%	= B
70% to < 80%	= C
60% to < 70%	= D
< 60%	= F

\*30% of grade from Lab exercises

\*40% grade from class Quizzes and Test

\*30% grade from Final Exam

**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.

**COORDINATOR FOR SECTION 504 AND ADA**

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