

**Western Dakota Technical Institute  
800 Mickelson Drive  
Rapid City, SD 57703-4018**

**Master Syllabus**

**Course Number:** IEL 213  
**Course Name:** Electrical Heating and Appliances  
**Credits:** 2  
**Contact Hours:** 1 Lecture, 2 Lab

**Course Description:** This course will provide the student with an understanding of electrical heat and electrical heating control circuits. Installation, maintenance, and troubleshooting of electrical heating systems are an important component of an industrial electrician's career. This course will also introduce the student to air conditioning and heat pump operation as well as the essentials needed to understand control systems on gas and oil heating systems.

**Prerequisites:** IEL 132, IEL 133

**Textbooks:** <http://bookstore.wdt.edu>

**Materials:** Drawing equipment including triangles, straight edge, French curve, and electrical templates

**Student Learning Outcomes:**

- Evaluate electrical heating and air conditioning circuits
- Construct common electrical heating and air conditioning circuits
- Troubleshoot commonplace problems in electrical heating and air conditioning circuits

**Assessment:** Students' analytical skills, technology skills, and employability will be assessed throughout this course.

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