

# **ELECTRICAL TECHNOLOGY COURSE SYLLABUS 2011-2012**

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## **Course Description**

Electrical Technology is a two-year program teaching students; the basics of construction, the use of tools and test equipment, the fundamentals of electricity, workplace skills, and the basic knowledge of electrical wiring according to the National Electrical Code.

## **Purpose of the Program**

The purpose of the Electrical Technology Program is to provide each student with the required skills to begin a career in the Electrical Field and the basic workplace skills to enable that student to be successful in whatever is done.

## **Instructional Philosophy**

Students will be taught theory and get practical hands on experience. Safety will be taught first and given the highest priority while working. Students will work individually and as part of a team in the classroom and on lab projects. Assessment methods will include chapter tests, projects, evaluations, journals, a notebook, and a daily performance evaluation.

## **Grading**

- The grade in Electrical Tech. is determined by the total number of points earned, divided by the total possible points.
- All students get the same number of possible points.
- The points accumulated are up to the student.

The only extra credit given in Electrical Tech. is for out of class volunteer school activities. Examples of these would be the school talent show, and Skills USA leadership activities.

Each student has the possibility of getting 100% of the possible points. The percentage of points received determines the student's grade.

The TCTC grading scale will be used for all grades. It is:

92-100%= A

83- 91% = B

74- 82% = C

66- 73% = D

Below 66%=F

## **Attendance**

Good attendance is vital to success in this program just as it will be in your career.

The State of Ohio requires that you are present in class and lab 90% of the school year to qualify for a TCTC Career Technical Certificate. This means you can only miss 36 days in 2 years. This is total days missed, it includes medical, court and funeral excuses.

You can receive academic credit, but not certification credit, for “documented” absences which include: medical, court and funeral reasons.

Spending the day in the Alternative Learning Center (ALC) does not count as an absence from school, but does result in reduction of your daily grade. If assigned work is done in ALC some of the daily grade may be made up.

### **Grades for students missing lab:**

- A. All absences will be classified either documented or undocumented. “Documented” means, an excuse written and signed by a qualified professional.
- B. Only four documented reasons do not count against the 18 day failure rule:
  - I. Medical
  - II. Court
  - III. Funeral
  - IV. Home School reason or post secondary school visit.
- C. If a student does not provide a “documented” reason for missing lab he/she will receive a zero for the assignment and for the day missed.
- D. If student provides a “documented” reason for missing lab, written work may be made up and up to nine of the ten lab points may be made up by working one full hour after school, or working for two lunch periods, for each day made up. This is at the teacher’s discretion and must be arranged in advance.

## **Safety Testing**

Skill and technical training is second only to the safety of our students. To that end, the Electrical Program not only places a heavy emphasis on safety training, but requires that each student in the program take and pass safety tests before they begin any work that may have specific safety issues. The Electricity Program gives three such tests during the course of the program.

**General Lab Safety:** The Electricity Program has a safety test that is intended to introduce the new student to safety issues associated with this program. There will be general classroom instruction to cover these issues and a written test to assess the student's understanding of these issues and how to deal with them. This general lab safety test must be passed at 100% before the student will be allowed to begin working in the lab. The test will then be kept on file.

## **OSHA**

Teaching students to work safely is more important than teaching any skill in any program. The TCTC has made passing the 10 Hour OSHA safety course a requirement for successful completion of this program. This nationally recognized certificate will go into the student's portfolio upon completion, and because safety is so important to employers these days, it gives our students an important advantage when applying for a job. The \$18 nominal fee (\$275 if taken after graduation) is part of the program fees and may be re-assessed if the student fails to complete the initial test successfully. Students will not receive their State Certificates of Program Completion if they do not successfully complete this test.

## **Safety Glasses**

Students are required to wear safety glasses in accordance with TCTC policy when ever any type of work with tools or electricity is being done in the lab. Failure to comply in this area will result in loss of points, after 3 offences the student will be referred to the Dean of Students

## **Student Planners**

Student Planners are a great tool to help each student be successful. The planners are issued by the Dean of Students and contain the student handbook along with a planning calendar. They are also to be used as the student's hall pass. Students will not be given permission to leave the Electricity Lab without having their own planner. If the planner is lost, a replacement planner must be bought from the dean's office.

### **Class Entry Procedures**

All students should be in their seats when the last bell rings. Since we usually do related teaching first, lockers should be open, books, paper and pencil should be out. Leave tools in your locker until needed. If there is an assignment on the board, begin working on that until class begins.

### **Late Assignments**

Throughout our working life there will be deadlines, there will be things turned in on the job, on a certain date, with no exceptions. Since our purpose in Electrical Technology is to teach workplace skills, assignments will not be accepted late without penalty. Lab journals will not be accepted late at all, other assignments late will be counted at 50% of the original grade. The only exception is if you have an excused absence the day an assignment is due, then it will be due on your first day back.

### **Effort**

Part of the grade in Electrical Tech is based on "Effort". Effort is defined in Webster's dictionary as: *the use of energy to do something, an attempt, a result of working or trying.*

Some are more talented, some have more experience, but we all have the same opportunity to give any job our best effort. Since the goal of this class is to teach students to begin a successful career in the Electrical Field, a certain amount of effort is necessary in this program.

### **Tools**

Each student is required to have the required tools to work in the Electricity Lab. A set of quality tools has been selected by the instructor, and bought by students directly from a private company at a discount price. Each student will have all of the required tools and no others. If a tool is lost it is the responsibility of the student to replace it immediately. All tools will be marked with the student's initials and kept locked in the student's lab locker. Students are not permitted to borrow or lend tools.

In the Electricity Lab, we strip wire with the tools in our tool kits, therefore no other tools are necessary. Since any type of knife or razor blade tool is not needed for our work and can cause accidents or property damage, knives and razor blade tools are not permitted in lab.

### **Log and Journal**

All students will keep a Log and Journal each week. The front section is a Log which must be updated each day. The back section is a Journal in which the student reflects on what was learned during the week. Lab Journals are due on the last day of each week. If a student is absent, they are due on the first day back. The Lab Journals are worth twenty points each week, which can greatly affect the grade in ET.

### **Program Shirts**

The Program Shirt is worn as a source of pride in our program. School policy is enforced in our lab with regard to program shirts. In addition, students will lose points from their daily grade each day that they do not have an "Electrical Tech" program shirt on while in lab.

### **Student Leaders**

There will be student leaders in the Electricity Lab who have certain duties in addition to their regular lab duties. The purpose for this is to develop leadership abilities. Each week one person will be the student leader in charge of safety, tours and clean-up. The leader's grade for the week will be based on the performance of that duty.

### **Lab Improvement**

Students will leave the lab in as good as, or better, condition than they found it. Each day a clean-up crew headed by a student leader will do a complete clean up of the lab. Clean-up is a team project which requires everyone's help; failure to participate will result in reduction of grade.

### **Lockers**

Each student will be issued a locker in the Electricity Lab for their tools, books and lab supplies. For security, all lockers will have a combination lock on them at all times. Failure to have a locked locker will result in loss of points from the daily grade for each day that the locker is left unlocked.

All students will also have a locker in the hall outside of their last period class for their coat and other supplies. Do not bring coats or book bags to lab; keep them in the hall locker

### **Notebooks**

Each student will keep a notebook for the purpose of developing organizational skills. The Notebook must be kept in a one and one half inch, hard cover, binder and contain 5 section dividers. The Notebook will be turned in for grading at the end of each nine weeks. Students should not wait until the last minute to update their notebook. The notebook is an on going project and to be effective it has to be updated regularly.

### **Math**

Math is a very important subject in the electrical field. Most electrical apprenticeships require at least one year of high school algebra. In our electrical theory classes we will study: whole numbers, measurements, fractions, decimals, the metric system and construction geometry. We will also study the mathematical relationship between voltage current and resistance which is known as, "Ohm's Law". In the second year we will study additional mathematical formulas relating to alternating current and transformers.

## **Job Shadowing**

All students will participate in a Job Shadowing experience during the senior year. They will shadow an employer in the electrical field. They will be required to make all necessary contacts with an employer to do this. The purpose is to see firsthand what to expect in an actual job situation.

**Senior Project** is an in-depth learning experience done by all students during the senior year. It gives all students a chance to use and show many of the skills learned here at TCTC.

Failure to complete Job Shadowing or Senior Project will result in loss of the TCTC Certificate and will greatly affect the student's grade in Electrical Tech.

## **Class Rules**

There are seven basic rules that are to be followed in Electrical Technology. These rules are not complicated or hard to follow because they are just common sense. Failure to follow them will result in loss of points which will affect the daily grade and eventually, school discipline. The class rules are:

1. Follow the directions given by the instructor.
2. No swearing (profanity), put downs, or teasing of anyone.
3. Keep hands, feet and objects to yourself (referred to as "horseplay")
4. Bring all needed materials including pencil, paper and textbook to class each day
5. Safety will be the number one priority in everything done.
6. No talking, when the teacher or anyone else is talking. This includes announcements on the PA system.
7. When the whole class, or a specified group, does a group project, (including clean-up) everyone will participate.