

**Syllabus: Solid State Electronics**

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This **one credit course** is 18 weeks long. ATTENDANCE IS CRITICAL. *For every class day missed, expect to spend 2 days in tutoring after school.* To receive credit for any MISD class, Texas state law requires the student to attend at least 90 percent of the days the class is offered.

**Course description:**

**Solid State** is presented with hands on, high-tech approach that includes hands on labsdesign software programs. Advanced Electronics presents the type of electronics found in many of today's high-tech devices. Solid-state theory (transistors, integrated circuits, numbering systems, logic gates, flip-flops) are introduced and practiced, as well as TTL and CMOS devices, digital logic, counters, registers, a/d and d/a converters and solid-state devices. It also reviews the advanced concepts of DC/AC Digital electronics, which include Fundamentals of semiconductor devices, which include diodes, common diode applications, BJT, Biasing Circuits, Amplifier principals, FETs, Op-Amps, Oscillators and Voltage Regulators. Labs include the use of Power supplies, function generators, oscilloscopes and meters... All labs require written reports. End of course has a research and design component. Employment opportunities and responsibilities will be explored. This course prepares the student to take the ESCET associate level CET certification. The student must pay for this exam. This is a semester course.

Please note: Texas Education Agency mandates the students in this course to demonstrate: **Positive work** behaviors that enhance employability and job advancement such as:

- regular attendance,
- promptness,
- attention to proper attire,
- maintenance of a clean and safe work environment,
- appropriate voice
- pride in work

The students will receive a daily participation evaluation (see the attached rubric). The average for the week will be posted as a grade

**Safety is crucial in the lab.** Before a student does hands on activity, he/she must pass a written safety test with a 100%. The student may take the test, as many times as needed to achieve this but the first attempt will be the grade recorded. To continue labs the student must be current in the assigned Career Safe units. If a student is

deemed a safety hazard to them or others, he/she will be immediately removed from the lab, parents and administrators will be contacted.

### **Attendance Policy TARDIES**

A student is tardy if they are not in class at the start of the class.

Session 1- Warning bell rings at 6:55am class begins at 7:00am

Session 2 - Warning bell rings at 11:20 am begins at 11 : 2 5 a m

- 1<sup>st</sup> tardy – warning
- 2<sup>nd</sup> tardy/3<sup>rd</sup> tardy – student conference
- 5<sup>th</sup> tardy – office referral and detention
- 6<sup>th</sup> tardy – office referral and two detentions
- 7<sup>th</sup> tardy – office referral and ISS
- 8<sup>th</sup> tardy – office referral and two days of ISS
- 9<sup>th</sup> tardy and more – office referral and multiple

days of ISS **Absences** Missing 20 minutes or more of any class is

considered an absence. **3 Absences parent contact**

**4 Absences Associate** principal conference and parent contact

**6 Absences Attendance** clerk sends letter home

**8 Absences student** must meet with the attendance committee.

**ABSCENCES/TARDIES** – It is your responsibility to get any information missed if absent or tardy.

### **Absence-Related Late Work**

**Late work related to an unexcused absence is not graded.**

Late work related to an excused absence is due according to district policy

(Due date is one class day per class absence plus one calendar day. The calendar day includes weekends.)

Long-term assignments are due on scheduled due date or the first class day after the absence **Work turned in after the due date is not graded.**

**Electronic Devices are for instructional purposes only.** This is determined by the teacher.

Before entering, the classroom electronic devices should be turned off and put away.

They may be turned on only when the teacher gives instructions to do so. Students

may only use the teacher specified apps. Failure to do so will initiate a call to the parents/guardian and a discipline referral. Each violation will result in stronger disciplinary actions.

Due to limited power outlets, devices should have 90% charge for the first session and 50% charge for the second session.

**Academic Dishonesty** <http://www.mansfieldisd.org/schools/pdf/highschoolhandbook.pdf>

Academic dishonesty—cheating or plagiarism—is not acceptable. Cheating includes the copying of another student’s work—homework, class work, test answers, etc.—as one’s own. Plagiarism is the use of another person’s original ideas or writing without giving credit to the true author. Copying, reading, deleting, or modifying another student’s work **or** giving your work to someone else will result in a **zero** on the assignment and notification of principal and parent/guardian.

**Student Supplies** The student is responsible for bringing a paper, a pen and a pencil to class each day.

Students are **not allowed to lend OR borrow supplies.**

**.Student assessment**

Daily quizzes ...	60%
Test.....	40%
Classwork.....	60%
Labs.....	40%

Students should expect a 1-5 question quiz at the bringing of each class that will review the previous day’s lesson **Test Retakes**

If the student would like the opportunity to retake a failed test/assessment, the student must:

1. Arrange with the instructor to receive remediation
2. Arrange with the instructor to re-test outside of class time within two class periods or by the end of a six-week grading period, whichever comes first.
3. Sign a contract with the instructor agreeing to the above terms.

**Note: The student will receive a maximum of 70% on the retake**

**Tutoring** *It is your responsibility to let me know that you are in need of help*

Tutoring is offered Tuesdays and Thursdays after school until 4 pm. Other times may be available on a limited basis. Transportation is not provided.

**Students must sign the tutoring log and confirm time before the day of tutoring.**

**Student Organization**

SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. The organization serves more than 300,000 students and instructors annually, with 15,000 school chapters in 54 state and territorial associations.

*Joining SkillsUSA is NOT a requirement and will not affect the student's grades.*

- Meetings are held after school (day to be determined). **Transportation is not provided**
- BBCTA students in Electronics and computer maintenance have won district contest for 11 years of the past 12 years. . Our students have won gold at the State championships for the past 5 years. Student have placed in the top ten and medaled in National contests. These students have received scholarships, industry certifications and various prizes. The student who wins at district proceeds to State. State winners progress to Nationals
- Meetings are held after school (day to be determined). Transportation is not provided.

**Officer Elections** Officers are elected by members who have paid their dues. Officers must be passing all subjects and have not been in BIC, AC or received after school detention.

**To compete** in the district, State and National competition,

- ✓ The student must be a dues paying member
- ✓ The student must have attended 85% of the after school meetings
- ✓ The student must be passing all classes (including honors and AP courses) with a 70.

**District contest.** The student is expected to pay travel food and hotel (if needed)

**State contest** is three days plus travel. If the student progresses to state level, the district pays all expenses except food.

**Fund raising activities will be discussed and voted on in the club meeting.**

**Texts:**

**TEXTBOOK:** Standard Textbook of Electricity

**AUTHOR:** Stephen L. Herman

**PUBLISHER:** Delmar Publications Fifth Edition

**Additional Resources:** [UTDdodge electrical engineering](#)