DE – Digital Electronics
Instructor – Trevor Hollingsworth

Curriculum:

DE is the study of electronic circuits that are used to process and control digital signals. In contrast to analog electronics, where information is represented by a continuously varying voltage, digital signals are represented by two discrete voltages or logic levels. This distinction allows for greater signal speed and storage capabilities and has revolutionized the world of electronics. The major focus of the DE course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation.

Students will access the curriculum through the internet. Though most work will be completed in class (this is the nature of a project-based curriculum), students can access lessons and resources from home should the need arise.

One of the goals of the goals of the curriculum – content aside – is to encourage and develop a student's ability to solve problems independently; this requires giving students the freedom to potentially make poor decisions (time management, for example). Please be aware: there may be some bumps in the road (especially early), but we're playing a long game and I'm confident things will work out (and willing to put in the work necessary to make it so).

Employability:

In addition to specific course content, DE (like all ACTC classes) encourages students to improve their soft-skills (professional behavior and communication, independent problem solving, time management); a student's employability rating figures into their average as a major grade.

Engineering Notebook:

An engineer's notebook serves not only as a catalogue of that individual's ideas and work, but also as a guide that can inform peers/coworkers, and potentially as a legal document in defense of patent/copyright claims; a student's engineering notebook grade figures into their average as a major grade.

Grades:

40% of average (minor) - Quizzes, homework checks and graded classwork
60% of average (major) – Employability, Engineering notebook, major projects

A student's employability and engineering notebook grades are assessed once each quarter using the corresponding rubrics.

Everyone makes mistakes (that's' how we learn). With that in mind, throughout each quarter students will have opportunities to complete assignments or win challenges in exchange for replacement grades… these grades (100) are used to replace students' lowest minor grades at the end of the quarter.

Contact Me:

I am an active teacher; I am often away from my desk during class, and often out of my room when students are gone. The best way to contact me is through email (THollingsworth@andersonctc.org); you can completely describe your concern, and I can address it when I get a moment.

I would also encourage you (and your student) to sign up with my Remind account: text @h4979c to the number 81010 (you'll receive a welcome text from Remind), or go to http://remind.com/join/h4979c   I promise not to bombard you with messages… in fact, I may never send any group messages through the service; it's just meant to serve as another way to contact me.

I do have a classroom phone (847-4121- ext. 2007), but I don't answer outside calls during class, and I'll be honest… the small red light that indicates I have a waiting voicemail doesn't always catch my eye amid the myriad of other alerts and activity in the room. I'd prefer that you let me call you… please request by email (or student ☺).

Extra Help:

Though students will be afforded more than enough class time to finish assignments, absences or poor time management could mean falling behind; I can make myself available after school hours on a case by case basis. Please make requests at least 24 hours in advance.

Cell Phones:

Students are allowed to use their phones in class *as tools* (taking pictures to document work, using headphones while working independently, etc.); phones used for other purposes are a distraction, and have no place in class.

Food/Drink:

Students are allowed to bring snacks or drinks, provided they agree to consume them in the appropriate places at appropriate times (and clean up after themselves).

The campus policies outlined in the ACTC handbook will guide discipline and other issues not described in this syllabus.

Parents… please confirm that you have received this syllabus from your student by either emailing me a quick note, or by joining my remind account and sending me a message. Either way, include your name, your student's name, and the way you'd prefer I contact you (should the need arise). Your student will receive an extra 100 for your trouble.