Electronics – Advanced Courses
Wheeler High School, Room LLI
www.wheeler-engineering.weebly.com

Coach/Mr. Mars Berwanger
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Welcome to Electronics! -Syllabus-

Course Descriptions

ADVANCED AC and DC CIRCUITS

As the second course in the Electronics Pathway, this course is designed for students interested in careers related to the design, production, analysis, repair, and operation of devices that use electronics. The course is designed around major individual and class projects that promote critical thinking, real world problem solving, and abstract reasoning that encourage the student to become an investigative lifelong learner. Students will create artifacts that demonstrate application of competencies in technical, academic, cognitive, and personal skills through daily work, team work, and homework, formative and informative assessments.

DIGITAL ELECTRONICS

In this class students have the opportunity to apply prior learning in electronics. Applying math and science to predict the success of an engineered solution and complete hands-on activities with tools, materials, and processes as they develop functional devices and working prototypes.

TELECOMMUNICATIONS

This course is comprised of microwave receiving and transmission, global positioning systems, and data communication. The course includes extensive hands-on instruction and curriculum delivery via leading edge on-line curriculum offered by the NIDA Corporation, which is a primary supplier of United States military telecommunications training programs. This course prepares students for continued post-secondary telecommunications education and preparation in the field of electrical engineering.

My Goal

It is my plan for each students' learning experience to be directed through topics of their individual interests. This course covers a wide range of content spanning countless careers and studies that having a mastery understanding of is far beyond the scope of a 4-year high school experience let alone one class. As such, I do not intend this course to delve into the full depth of all the content covered, but rather I aim to introduce students to a vast world of engineering and to help students discover their own interests and become life-long learners.

I define my goal for this semester as each student discovering something they are excited about learning and to provide them the resources and skills to pursue this knowledge. To meet this goal, I encourage you as the student to draw upon not only what you learn in this classroom but your own experiences, culture, knowledge and interests.

What You Should Expect from Me

- I will uphold a positive learning environment where every student is welcome in my classroom and provided a fair opportunity to succeed in this class regardless of their prior knowledge, race, gender, beliefs, culture or school history.
- I will return graded assignments in a timely manner and hold myself accountable just as I expect the same from you.
- I will respect that every student comes to this class with different learning needs and preferences. I will do my best to differentiate to best serve each of you.
- I will respect your opinions and value the strengths you bring to my classroom and be patient with you as you develop your weaknesses.
- This is my first year teaching this course and I expect my plans to change and develop as the year progresses. I will be honest and transparent with you about these changes and my mistakes as the year progresses and this course develops.
- Remediation and makeup work is available for any and all assignments. It is more important to me for that you understand the content and have a desire to learn than it is important for me when you understand/want to learn this content.
- I will always welcome your feedback and input.

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What I Expect from You

- Treat your peers with the same level of respect as you wish them to treat you.
- If you are excited or interested in something, share it with me!
- Take ownership of your learning and learning environment. Treat tools and materials with respect by using them appropriately and returning them to where they belong.
- Come to class on time and be ready to engage in the lesson at the start of the bell.
- I understand that you have other classes and a life outside of my class. If you ever find yourself overwhelmed or behind in my class, please come talk to me.
- If you know you are going to be absent or turn in an assignment late let me know beforehand. You'll have better luck asking for permission than forgiveness.
- Do not give up on yourself in this course and check out. If you are unhappy with your learning direction any other aspect of my class come talk to me.

Grading

10%	Class Engagement
20%	Classwork/Homework
40%	Unit Tests/Projects/Portfolio Checks
10%	Final Project

A note on the class participation grade: There will only be one assignment for this in the gradebook, and its numerical score will be fluid. At the start of the year, everyone will be have a 100% in class participation and it is my hope that this is also true at the end of the semester. As long as you are not regularly behaving in a manner which is detracts from the learning environment of you, your classmates or me this grade will remain at a 100%, however, if not I will make a note of this in the gradebook for this assignment and adjust the grade accordingly (the same is true for bringing this grade back up).

Pathway Completion

If you are in Digital Electronics, you will be taking the EOP (End of Pathway) examination at the end of this course. This test is similar the EOC in that is a state-created exam.

Film and Photo Permission

During the semester photos will be taken to display in the classroom, portfolios, and on the blog, there will also be times that curriculum related videos will be shown, there may be a time when the videos will be PG-13. Please sign the attached form giving your child permission to have their photo taken along with watching PG-13 videos. If you do not wish for either for your child their participation in course content and their grade will in no way be impacted.

Cell Phones…

Use your phones for good and not for evil! As a technology class, cell phones will occasionally have the opportunity to serve as a learning tool for research, collaboration and engagement. However, when phones are told to be put away they are expected to remain so.

Teacher Information

Please feel free to contact me at any time in one of the following ways:

1. If available, before or after school. I am usually more available in the mornings as I am involved with some after school club or sport nearly every day.
2. By email at mars.berwanger@cobbk12.org (PREFERRED METHOD FOR PARENTS)
3. by telephone: please call the school on 770.578.3266 and ask to be forwarded to me.

View my blog: https://wheeler-engineering.weebly.com/
Easiest way to get to my blog: go to the Wheeler website, faculty page, and click on my name.

Finally!

Electronics, while a seemingly mysterious and magical discipline to some, can be very rewarding in the range of applications and possibilities which an understanding of can open. I very much enjoy this field, and once upon a time got a degree and worked in this field. My hope is to spark an interest in every student as we learn a lot and have fun time doing it!

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PLEASE SIGN AND RETURN THIS PART OF THE COURSE SYLLABUS. RETAIN THE SYLLABUS FOR YOUR REFERENCE. IF you HAVE ANY QUESTIONS, YOU MAY NOTE THEM BELOW OR CONTACT ME SEPARATELY.

_____ _____

Student's printed name Class period

I have read and understand the terms of the Foundations of Engineering and Technology Fall 2018 syllabus.

_____ _____

Student Signature Date

_____ _____

Parent/Guardian Signature Date

_____

Parent/Guardian Printed Name(s)

_____ _____

Phone Number Work/Daytime Phone Number

_____

Parent Email Address

Please circle the appropriate option.

My Student **may/ may not** view PG-13 videos.

My Student **may/ may not** have their picture taken