

Ms. Rose roseka@hamilton.k12.wi.us 262-246-6471 ext 1760

Course Website: <https://sites.google.com/hamilton.k12.wi.us/msrosedigitalelectronicsandaut/home>

Course Objectives

The students will:

- Wire series and parallel circuits using a breadboard
- Wire digital circuits using diodes, logic gates, and breadboards
- Simplify digital circuit design using Boolean Algebra, K-Mapping, and DeMorgan Theory
- Program and automate lab scale pneumatic manufacturing equipment.
- Design and automate a manufacturing process
- Robot programming

Classroom Rules

1. **BACKPACKS ARE NOT ALLOWED IN THE CLASSROOM.**
2. All laptops must be shut down and plugged into the charging carts. All mice must be placed in the proper slot. **USE THE MOUSE NUMBER THAT IS THE SAME AS YOUR LAPTOP**
3. **Only wire earbuds can be used.** Earbuds will be available for those who do not have them.

Cell Phone Use

1. When a student enters their classroom, the student's cell phone must be stored in their assigned slot in the cell phone caddy. Students who do not follow teacher directions or refuse to surrender electronic devices will be subject to administrative referral and progressive discipline.
2. Students who use their personal electronic devices without permission or in a manner not intended will receive consequences according to the following protocol:
 - a. First Offense: Device will be surrendered to the teacher and returned to the student at the end of the block.
 - b. Second Offense: Device will be surrendered to the teacher and given to the High School Office. The student can retrieve the device from the High School Office at the end of the day.
 - c. Third and Subsequent Offenses: Device will be surrendered to the teacher and given to the High School Office. A parent/guardian must pick up the device. As with any persistent classroom/school disruption, progressive discipline will be applied as deemed necessary.

Grading Scale

Grade	Percentage	Rubric Score	Rubric Equivalency	Range
A	93-100	4.0	100	3.6-4.0
A/B	88-92	3.5	90	3.3-3.59
B	83-87	3.0	85	2.8-3.29
B/C	78-82	2.5	80	2.3-2.79
C	73-77	2.0	75	1.8-2.29
C/D	68-72	1.5	70	1.3-1.79
D	60-67	1.0	65	0.7-1.29
F (incomplete)	0-59	0.5	50	0.3-0.69
F (nothing)		0.0	0	0.0-0.29

Grading Breakdown:

Formative – 20%

Summative – 80% - all categories worth 16%

- College and Career Readiness – safety, timeliness, preparedness, etc.
- Technical Documentation – models, drawings, sketches, etc.
- Technical Math – calculations, conversions, measurement, etc.
- Manufacturing – production, assembly, etc.
- Testing, Analysis, and Inspection – project evaluation, reflection, etc.

Final Exam – 10%

Projects - Manufacturing, Technical Documentation, Technical Math, Test/Analysis/Inspection

Students will be completing group activities associated with engineering. With the completion of the activities the student will receive credit based on the rubric associated with the specific lab/activity. These will be graded as a group score.

Tests - Manufacturing, Technical Math, Test/ANalysis/Inspection

Fill in notes will be used to present material. Students are responsible to write in notes using a presentation. Homework points will be given for note completion. Notes can be used on the tests. The test can be taken 2 times. If the student completed the notes, the average of the 2 test attempts will be taken. If the student did not complete the notes, the first attempt ONLY will be taken.

Late Work

Late assignments will be subject to a reduction of 10% - formative and 0.5 pts - summative for each 5 school days up to 25 days. Then it is -50% formative and -2.5 summative, 0.5 minimum. All projects, assignments, and quizzes must be submitted by the end of each grading term. At such time, missing grades will be changed to 0 and cannot be made up. See the instructor for extenuating circumstances.

Course Fee

In order to supply the students with the necessary materials to successfully complete projects, a course fee of \$20.00 must be applied. This fee covers the cost of a variety of supplies and materials to be used over the course of the semester.

Consequences for Misbehavior:

Misbehavior includes but not limited to: talking during lecture, sleeping, throwing paper or any objects, horseplay during work time, roaming the classroom during lecture or computer work time, texting or playing on phone, playing games or watching non technical videos on the computer, etc

First Offense: verbal warning

Second Offense: verbal warning

Third Offense: written warning + 3 minutes after class

Accumulation of 2 written warnings: written-up to administration

There are certain misbehaviors that will result in a write-up to administration. Some of these include, but are not limited to, indecent language or physical gestures, vandalizing property, fighting, or any misbehavior deemed excessive by the instructor

Technology and Applied Engineering Safety

Technology and Applied Engineering are courses that are largely laboratory and project based. The goal of the class is to offer your student an overview of engineering based technology in as safe of an environment as possible. Over the course of the semester, students will be exposed to various hand tools and possibly wood-working and machining equipment through the design and modeling process. If your student does not feel comfortable or safe performing any in class fabrication process, he/she is encouraged to bring it to the instructor's attention and they will assist him/her in any way possible.

The Technology and Applied Engineering safety initiative is based on teamwork. Students in the class need to help each other in a positive way by looking out for their classmates, and offering reminders if they see behavior that is unsafe.

Conversely, any intentional infraction of safety rules will be grounds for immediate removal from class and a referral to administration.

Please return this signed page to Ms. Rose by September 6th.

I have read and I understand the information contained in the Fundamentals of Engineering course outline.

Printed Student Name: _____

Student Signature: _____ Date: _____

Parents: Be aware that cell phones will not be used and are not allowed to be out in the classroom. All cell phones will be placed in a phone caddy before the start of class. If your student will need to have access to their phone for medical or other reasons, please email me to let me know the circumstances.

Parent Signature: _____ Date: _____