



Engineering Concepts Course Syllabus 2015-2016 School Year

Engineering and Applied Technology Pathway

Frederick Douglass High School, Atlanta, GA

Instructor: Mr. A. Campbell

Conference: Monday and Wednesday Afternoons (Please schedule an appointment.)

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Welcome to the Engineering and Technology Pathway!

The Engineering Pathway is a sequence of courses which, when combined with traditional mathematics and science courses in high school, introduces students to the scope, rigor and discipline of engineering prior to entering college. However, those not intending to pursue further formal education will benefit greatly from the knowledge and logical thought processes that result from taking some or all of the courses provided in the curriculum.

Course Description:

Engineering Concepts is the second course in the Engineering and Technology Pathway. Students will learn to design technical solutions to engineering problems using a whole systems approach to engineering design. Students will demonstrate the application of mathematical tools, teamwork, and communications skills in solving various design challenges, while maintaining a safe work environment.

The course will be taught using demonstration and discussion combined with individual and team-centered project based learning. In each of the learning sections students will learn a different set of performance objectives.

Standards:

The course standards in their entirety along with the connected standards for the core curriculum, (math, science, language arts, etc.), can be found on the Georgia Department of Education website. The details for Career & Technical Education are also found on the state website. The Foundation Skills for Career, Technical and Agricultural Education (CTAE) are critical competencies that students pursuing any career pathway should exhibit to be successful. As core standards for all career pathways in all program concentrations, these skills link career, technical and agricultural education to the state's academic performance standards. Please follow the link below to read the detail descriptions of each course standard:

<https://www.georgiastandards.org/standards/Georgia%20Performance%20Standards%20CTAE/Foundations-of-Engineering-and-Technology.pdf>

Course Assignments

1. **Homework** - may include worksheets, design ideas, sketching and general preparation form presentations, quizzes or test. Some grading periods may not have assigned homework because of the nature of instruction.
2. **Laboratory / Projects** - constitutes the major portion of the student's time in this class. Large and complex projects will be completed in the computer, design, and modeling lab.
3. **Assessment and Quizzes** - will be given as needed to ensure that the student has mastered the information.
4. **Semester Exam** - will be given at the end of each term. This exam may be in the form of a project.
5. **Portfolio Requirements** - Portfolios will be collected and graded on for content and engineering team documentation.

Text and References

There is no assigned text. All test material will be taken from daily notes, class materials, and lectures. However, reference textbooks and materials are available. Students are required to keep a notebook in our online classroom environment (www.edmodo.com). that include notes on all class material and lab work. Your notebook will be worth BONUS points on your final grade.

Notebooks must be kept neat and in order by date to have points awarded, NO EXCEPTIONS.

Grades and Make-Up Work

Learning Skills	10%
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Grading Scale:

Classwork/Participation/	20%
Homework	10%
Projects	15%
Tests (or Performance)	25%
and Quizzes	20%
TOTAL:	100%

90-100..... A
80-89..... B
70-79C
69 or below..... F

Materials to be Purchased

1. Some materials for projects might require a small lab fee (\$5-\$8) and student are allowed to keep the resulting lab project
2. Three Prong Notebook and Paper (**SPIRAL NOTEBOOKS ARE NOT ACCEPTABLE**)
3. One package of Divider Pages
4. **Optional:** Flash drive (at least 8 GB)

*****Please label all of your property with first and last name and class period*****

Parent/Teacher/Student Communication

I have chosen to make electronic communication mandatory in this class.

The first assignment in this class is for THE PARENT to email me with the students name and period in the subject line or contact me via Edmodo phone or online application.

I strongly believe that parent communication and participation is a strong factor in student success. By contacting me in this fashion, I will be able to establish an easy to use method of communication between the parent, the student, and myself.

Policies

Attendance and promptness is extremely important in an engineering class. Each class missed is 90 minutes of instructional time lost. School policy for absences will be enforced. Students are expected to be in class on time. Students must have an appropriately excused absences signed by a parent/guardian to make-up missed work.

When you enter the class you are expected to seated **IMMEDIATELY** and working on the sponge activity. Prepare yourself for class. You should have materials ready, objects away, and your mind on Engineering.

THE STUDENT AND PARENT MUST SIGN THE COMPUTER RULES AND LAB SAFETY POLICY PROVIDED BY THE DISTRICT.

In addition, the following rules apply to my class to promote opportunities for students to earn a good grade:

1. Assigned seats – students must sit at their assigned computers and are not allowed to use other computers unless specifically directed to by the instructor.
2. Outside disks – disks or other media may **NOT** be brought into the classroom (including disks from other classes within the school).
3. Food/Drink – **NO FOOD or DRINK** of any type is allowed in the classroom at any time.
4. Printing – A few assignments require printing to the laboratory printer. Students should always ask instructor and preview work before printing. Additional printing of other items requires specific permission by the instructor.
5. Hand in all work on time!!!! Homework and sponge assignments are due at the beginning of the period. Projects will be due at the end of the period. Late work will result in reduced credit for each late assignments.
6. Missed classes and make-up work are the responsibility of student. The student will be allowed one class day for each day absent. (Example: If absent two class days you will be allowed two class days to complete the work).
7. **Design projects must be turned in on the due date, even if they are not complete.** Design projects and/or presentations may be made up at the discretion of the instructor if extenuating circumstances arise. The project and the make up work must be from the same term. A request for an extension/remediation is done submitting a written request to the instructor stating the reason for the failure, followed by a conference.
8. Take care of the room
 1. No seating on tables or desks
 2. No feet on the desks or other chairs

3. DO NOT Change/load **ANYTHING** on **ANY** computer
4. Leave items, equipment, tools in the work and demonstration areas alone!
5. Trash – You make it you clean it up
6. All students must be safety cleared before using any classroom tools and machines.
7. Students will be held responsible for any school tools or class materials being used.

Discipline

YOU CAN CHOOSE YOUR BEHAVIOR. YOU CANNOT CHOOSE YOUR CONSEQUENCE!

All district and campus policies will be followed and enforced in this classroom.

This is not our opinion, it is our responsibility.

Possible Consequences include, but are not limited to:

- Change seat assignment
- Conferences/Detention
- Call parents
- Loss of computer/supply/equipment access
- Administrative referral

Academic dishonesty

If a student is caught cheating on assignments, printing work for another student, or turning in any form of work done by another student is considered cheating and the district's policy as stated in the student handbook will be strictly enforced.

Do not tear! Please sign and return the whole document to the teacher.

I have received the syllabus for this course and agree to share the information with my parent or legal guardian.

Print name

Sign name

My son/daughter and I have read and discussed this and agreed to abide by the conditions outlined in this document.

Print name

Sign name

THIS PORTION OF THE DOCUMENT SHOULD BE PRINTED AND PLACED IN THE FRONT OF YOUR NOTEBOOK!