

**Stone Mountain Middle SCHOOL**  
4301 Sarr Parkway  
Stone Mountain, GA 30083  
678-676-4802

**Course Syllabus**

**Teacher:** Morris A. Langston, Room 611

**E-mail:** morris\_a\_langston@dekalbschoolsga.org

**Course Title & Code:** Engineering & Technology (9 wks) 6<sup>th</sup>- MEP, 7<sup>th</sup>- MHI, 8<sup>th</sup>-MFX

**Course Descriptions:**

***Exploring Technology – 6<sup>th</sup> Grade***

Students develop an understanding of the progression and scope of technology through exploratory experiences. In group and individual activities, students experience ways in which technological knowledge and processes contribute to effective designs and solutions to technological problems.

***Inventions & Innovation – 7<sup>th</sup> Grade***

Innovations, or commercially produced inventions, affect us personally, socially, and economically. Students participate in engineering design activities to understand how criteria, constraints, and processes affect designs. Brainstorming, visualizing, modeling, constructing, testing, and refining designs provide first-hand opportunities for students to understand the uses and impacts of innovations. Students develop skills in communicating design information and reporting results.

***Technological Systems – 8<sup>th</sup> Grade***

Students become acquainted with content and processes associated with basic technological systems. The design, development, and relationships of different systems are explored. Students apply systems concepts to design and problem-solving activities related to transportation, information, energy/power, biotechnology, and other technological systems. Laboratory activities engage students in constructing, using, and assessing technological systems.

**Textbook & Material:**

*Engineering by Design curriculum (EbD)*

Georgia Engineering Technology Education Association: ***Problem Solving Cookbooks v1-4.***

*Engineering the Future – National Center for Technology Literacy Published by It's about time Mount Kisco, NY (Classroom Set)*

**Outline of Course:**

1. Student will work in groups of 2-3. Each group will be given a problem from the GETEA: Problem Solving Cookbook or the EbD design briefs and a limited amount of materials. Each group must brainstorm and develop a written plan to solve the problem. The group must provide a sketch of their solution and then construct a working model from the materials supplied.  
Students will keep all materials in folders given by the teacher. The folders will remain in the classroom. Students are expected to keep all notes, handouts, quizzes, & written materials in your folder. A folder check will count as 10% of your grade. Keep all items neat and in order!

Students are required to come to class prepared daily, bringing pencils and paper. Students are responsible for keeping up with their class activities. All work will be stored in the class folders.

## GPS Standards:

### Exploring Engineering & Technology - Grade 6

**ENGR-EET-1: Students will examine the nature of engineering & technology.**

**ENGR-EET-2: Students will evaluate the impacts of engineering & technology on society.**

**ENGR-EET-3: Students will explain the engineering design process.**

**ENGR-EET-4: Students will demonstrate an understanding for a technological world through hands-on projects.**

**ENGR-EET-5: Students will analyze the designed world of engineering, electronics, manufacturing, and energy systems.**

**ENGR-EET-6: Students will examine and research careers in fields related to engineering & technology.**

**ENGR-EET-7: Students will develop leadership skills and work ethics.**

### Invention and Innovation - Grade 7

**ENGR-II-1: Students will learn the concept of invention and innovation.**

**ENGR-II-2: Students will examine the core concepts of engineering and technology.**

**ENGR-II-3: Students will demonstrate engineering design and problem solving skills.**

**ENGR-II-4: Students will invent or innovate a technological product.**

**ENGR-II-5: Students will examine the impacts of inventions and innovations on society.**

**ENGR-II-6: Students will develop leadership skills and work ethics.**

### Technological Systems - Grade 8

**ENGR-TS-1: The students will develop an understanding of the Universal Systems Model.**

**ENGR-TS-2: The students will develop an understanding of how the design process is used to develop a technological system.**

**ENGR-TS-3: The students will develop an understanding of how humans interact with systems.**

**ENGR-TS-4: The students will develop an understanding of how systems evolve from one stage to another.**

**ENGR-TS-5: The students will recognize and be able to forecast trends in the development of technological systems.**

**ENGR-TS-6: The students will recognize relationships among technologies and assess the impact of integrated systems.**

**ENGR-TS-7: Students will develop leadership skills and work ethics.**

#### Grading Scale:

A=90-100

B=80-89

C=71-79

D=70

F=69-0

#### Grading Weights:

Class Work/Daily Work =40%

Group Projects/Labs =30%

Tests/Quizzes =15%

Reading /Writing (Folders) =10%

Final Exam =10%

**Total = 100%**

## **Policies / Regulations:**

It is the policy of the DeKalb County School System that students will receive a denotation of "I" (Incomplete) for any missing assignments until student work is completed. Student work must be completed within the prescribed time limit set by your school. The maximum point allotment will be 80%.

- **Zeros Are not Permitted Policy:** (ZAPP) - It is the expectation of this faculty that **all** assignments are completed for mastery. If an assignment is not submitted and/or does not meet standards, then the student must complete and/or re-do the assignment during one or more of the outlined Safety Nets.
- **Late work** - It is the policy of the DeKalb County School System that students will receive a denotation of "I" (Incomplete) for any missing assignments until student work is completed. Student work must be completed within the prescribed time limit. The maximum point allotment will be 80%.
- **Make-up work-** It is the student's responsibility to make arrangements with the teacher for any work missed.
- **Academic honesty-** Receiving or giving information for an assignment is cheating and when caught in the act students will not receive credit nor receive the opportunity for a chance of make-up. **Plagiarism is not acceptable:** If a student takes information from the Internet or any printed resources without a citation, it is considered plagiarism and will result in a reduction in grade.
- **Safety Net Opportunities-** Any opportunity afforded to students to ensure mastery of required standards.

## **Supplies:**

Notebook paper, pencils/pens, external storage device, ruler, pencil sharpener

## **Expectations / Consequences / Discipline:**

Students must adhere to the DCSS Student Code of Conduct, as well as specific class rules.

## **TECHNOLOGY CLASS RULES:**

1. Please be on time for class everyday!
2. Do not enter the lab area unless directed to do so.
3. **Respect the people, equipment, and furnishings of the classroom and lab.**
4. **NO BULLYING!**
5. No eating in the classroom or the computer lab.

6. Clean your work area 5 minutes before the class end.
7. Follow directions the first time they are given.

### **Discipline Plan:**

#### **Minor Offenses:**

- 1<sup>st</sup> Offense** = Warning/Conference with student
- 2<sup>nd</sup> Offense** = Reassign seat/Relocate/Phone call to parent
- 3<sup>rd</sup> Offense** = Detention/call to parent
- 4<sup>th</sup> Offense** = Parent Conference
- 5<sup>th</sup> Offense** = Referral to Grade Level Administrator

#### **Major Offenses: Immediate Referral**

- **Fighting**
- **Weapons**
- **Drugs**
- **Inappropriate bodily contact**
- **Verbal threats towards school personnel or other students**

#### **Important dates:**

*See county / school website.*

#### **Required Projects/Special assignments:**

*See Outline of Course.*

**Helpful websites and other resources:** <http://www.dekalb.k12.ga.us> & <http://www.gatsa.org>

**\*The teacher reserves the right to **adjust the course work and/or differentiate** instruction as needed to meet the needs of students and ensure academic success.**



**Join TSA!**  
**Technology Student Association**

**TSA will provide opportunities for leadership and social development. TSA is an integral part of the Engineering & Technology Education program. TSA helps prepare students for leadership in a technological world and to offer recognition for achievement in Engineering & Technology Education.**

*Interested in becoming a member, see Mr. Langston room 614 for an interest letter.*

