

# **Engineering Applications**

## **Course Syllabus**

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<b>Course Title:</b> Engineering Applications	<b>Course Number</b>
<b>Textbook:</b> Engineering Fundamentals An Introduction to Engineering 7 <sup>th</sup> Ed	<b>Textbook Price</b>
<b>Textbook website:</b> cengage.com	<b>Academic Support:</b> Monday: 3:45pm – 4:45pm

### **Course Description**

**Course:** Engineering Applications **Prerequisite:** Engineering Concepts

**Course Description:** Engineering Applications is the third course for all Georgia Engineering and Technology Education pathways. This course provides students with opportunities to develop fundamental technological literacy as they learn about the history, systems, and processes of invention and innovation.

### **Program Concentration/Course Title**

**ENGR-EA1 – Students will use selected discipline specific engineering tools, machines, materials, and processes.**

(a) Explain the criteria for selection of appropriate materials, tools and processes.

**ENGR-EA2 – Students will develop and follow a detailed plan for the solution of a design problem.**

(a) Produce flow charts, timelines, and other scheduling tools.

**ENGR-EA3 – Students will demonstrate prototype development.**

(a) Identify appropriate modeling techniques.

(b) Select and apply appropriate materials, tools, and processes for prototype development.

(c) Evaluate effectiveness of prototyped solution and modify as needed.

**ENGR-EA4 – Students will explain the impact of business and marketing on engineering design.**

(a) Perform market survey techniques.

(b) Develop cost analysis and return on investment calculations.

(c) Present marketing plan to decision makers and end users.

**ENGR-EA5 – Students will identify the impacts of social, economic, and environmental issues on the engineering design process.**

(a) Describe how external issues constrain the engineering design process.

(b) Explain strategies for balancing external issues with design outcomes.

(c) Integrate appropriate accommodations within designed solutions.

### **Morrow High School Mission**

The vision of Clayton County Public Schools is accountable for providing a globally competitive education that empowers students to achieve academic and personal goals and to become college and career ready, productive responsible citizens.

### **Academic Integrity Policy**

The development of a sense of personal integrity and responsibility in our students is an important goal for our teaching efforts. Students at Morrow High School are expected to submit work for evaluation that has been completed solely by that student, unless group assignments have been so designated. The following actions are considered to be violations of academic integrity:

- Using or receiving unauthorized materials in a test situation.
- Passing on test answers and/or questions to someone who has not taken the test.

- Turning in work for credit that is not the student's own (i.e. gross plagiarism).

If a student is found to be in violation of the academic policy, the following measures should be taken:

- The student will receive a zero on the assignment and will not be allowed to complete the same.
- The teacher will inform the parent/guardian.
- Additional disciplinary action may be taken by the administration if warranted.

### Required Materials

1 Binders (1 ½ inches)      Mechanical Pencils and ink-pens  
 Notebook Paper              Spiral bound notebook

### Grading Scale

<b>Area</b>	<b>Percentage</b>	<b>Area</b>	<b>Percentage</b>
Daily Work	25%	Tests/Quizzes	30%
Projects	10%	Homework	15%
Final Exam	20%		

### Grading System

**A:** 90-100      **B:** 80-89                      **C:** 71-79                      **D:** 70                      **F:** 69 and below

### Notebooks

You will need 1 notebooks for this class.  
 Everyday Notebook must be organized using the Cornell method:

### Homework Policy (Board Policy IHB)

Homework is defined as any required study assigned to be done after regular class time. It is the policy and practice of Morrow High School to assign homework as a positive, valuable tool which:

- Reinforces classroom instruction
- Prepares students for upcoming topics
- Aids in evaluating student progress

### Attendance

School attendance is directly linked to academic achievement; therefore, students are expected to attend school daily. Attendance will be recorded daily. However, illness and emergencies do occur. In such cases, students should notify the teacher prior to the absence (if possible) or upon return of the reason for the absence and turn in the proper excuse to the attendance office in the Vocational Bldg.

### Make-Up Work Procedure for Absences

It is the practice of Morrow High School that students are provided an opportunity to make up missed assignments and/or tests regardless of the reason for absence, including ISS and OSS. However, it is the student's responsibility to make arrangements and/or complete all missed work. If a student is absent, he or she is allowed to complete the missed work for credit (usually) within 3 days.

- *It is the student's responsibility to obtain the make-up work or missed assignments, tests, and class work from the teacher.*
- Students will present the make-up work to the teacher for grading or a grade of "0" will be given.

### Conduct Grades

Conduct grades will be placed in the grade book based upon a student's behavior in class.

**S** = Satisfactory                      **N** = Needs Improvement                      **U** = Unsatisfactory

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Parent/Guardian Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Parent/Guardian Phone #:** \_\_\_\_\_ **Email:** \_\_\_\_\_