

# **Engineering Concepts**

## **Course Syllabus**

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<b>Course Title:</b> Engineering Concepts	<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 Concepts **Prerequisite:** Foundations of Engineering and Technology

**Course Description:** Engineering Concepts is the second 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-EC1 – Students will describe the history and characteristics of engineering disciplines.**

- (a) Explain a contemporary definition of engineering.
- (b) Describe the history and development of engineering.

**ENGR-EC2 – Students will demonstrate the engineering design process.**

- (a) Describe the role of problem identification, problem definition, search, constraints, criteria alternative solutions, analysis, decision, specification, and communication as activities comprising the engineering design process.

**ENGR-EC3 – Students will solve problems using basic engineering tools and resources.**

- (a) Explain various measuring systems and their base units.

**ENGR-EC4 – Students will demonstrate a whole systems approach to engineering and problem solving.**

- (a) Explain the functions engineers are responsible for as a team member in the design and development of technological products and processes.
- (b) Apply leadership skills to participation in design team activities.

**ENGR-EC5 – Students will apply engineering graphics and technical writing to communication of an engineering design.**

- (a) Use Multiview projection and pictorial drawings to communicate design specifications.
- (b) Apply descriptive geometry and graphical vector analysis to the analysis of engineering design problems.
- (c) Apply accurate dimensions to a technical drawing, including size and geometric tolerances.

### **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:** \_\_\_\_\_