

South Career & Technical Academy
Course Expectations

Course: Engineering Foundations II

Instructor: Christine Corbin

Contact information:

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Course Scope and Goals:

The prerequisite for this course is Engineering Foundations I. Students will continue the engineering design process and its application. Areas of emphasis include engineering standards, 3D modeling software, safety to help them design solutions to solve proposed problems, document their work using an engineer's notebook and work in teams. Instructional practices incorporate integration of diversity awareness including appreciation of all cultures and their important contributions to society. The appropriate use of technology is an integral part of this course. This course fulfills one of the Arts/Humanities/CTE credits required for high school graduation.

Course Goals:

1. CONTENT STANDARD 1.0: Integrate Career and Technical Student Organizations (CTSOs)
 - a. Performance Standard 1.1: Explore the History and Organization of CTSOs
 - b. Performance Standard 1.2: Develop Leadership Skills
 - c. Performance Standard 1.3: Participate in Community Service
 - d. Performance Standard 1.4: Develop Professional and Career Skills
 - e. Performance Standard 1.5: Understand the Relevance of Career and Technical Education (CTE)
2. CONTENT STANDARD 2.0: IDENTIFY LAB ORGANIZATION AND SAFETY PROCEDURES
 - a. Performance Standard 2.1: Demonstrate General Lab Safety Rules and Procedures
 - b. Performance Standard 2.2: Use Tools and Equipment Safely
3. CONTENT STANDARD 3.0: ASSESS THE IMPACT OF ENGINEERING ON SOCIETY
 - a. Performance Standard 3.1: Investigate Related Careers in Engineering
 - b. Performance Standard 3.2: Analyze Ethics in Engineering
4. CONTENT STANDARD 4.0: ANALYZE THE ENGINEERING DESIGN PROCESS
 - a. Performance Standard 4.1: Interpret the Engineering Design Process
5. CONTENT STANDARD 5.0: CONSTRUCT ENGINEERING DOCUMENTATION
 - a. Performance Standard 5.1: Demonstrate Freehand Technical Sketching Techniques
 - b. Performance Standard 5.2: Demonstrate Measuring and Scaling Techniques
 - c. Performance Standard 5.3: Use Engineering Documentation Procedures
 - d. Performance Standard 5.4: Produce Technical Drawings
 - e. Performance Standard 5.5: Demonstrate Modeling Techniques
6. CONTENT STANDARD 6.0: INVESTIGATE MATERIAL PROPERTIES
 - a. Performance Standard 6.2: Analyze the Strengths of Materials
7. CONTENT STANDARD 7.0: APPLY FUNDAMENTAL POWER SYSTEMS AND ENERGY PRINCIPLES
 - a. Performance Standard 7.1: Investigate Power Systems and Energy Forms
 - b. Performance Standard 7.2: Identify and Use Basic Mechanical Systems
 - c. Performance Standard 7.3: Identify and Use Energy Sources and Applications
 - d. Performance Standard 7.5: Identify and Use Basic Fluid Systems
8. CONTENT STANDARD 8.0: APPLY STATISTICS AND KINEMATIC PRINCIPLES
 - a. Performance Standard 8.2: Use Kinematic Principles

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Textbook(S): Engineering Foundations utilizes some Project Lead the Way (PLTW) curriculum in conjunction with various supplementary materials to support both Energy and Civil Engineering programs.

Course Materials: Graph paper Notebook, paper, pencil, blue/black ball point pens, set of 4-color highlighters, and headphones.

Grading Policy: The purpose of grades is to provide effective feedback to students, parents, and the school administration about a student's progress towards mastery of the established standards for a particular course or subject. It is important to note that **excessive absences** (seven unexcused absences during a semester) may result in a loss of credit in accordance with CCSD Regulation 5113.

1. All courses on the SCTA campus will have a weight of 80% Summative (tests, projects, assessments, mastery assignments etc.) and 20% Formative (classwork/practice).
2. All missing work will be accepted up to one week from the due date at which time the assignment will lock and the "L" will be changed to an "M" in Infinite Campus.
3. Educators will notify students/families of late/missing work via Infinite Campus in a timely manner (e.g., within three class meetings). The teacher will notify parents of students missing more than 2 Formative assignments or any Summative assignment.
4. Grade books will be updated by the teacher weekly (by Monday morning for the preceding week, unless progress reports or grades are due on a preceding day).

Reassessment Policy

1. Students who do not meet specific standards can retake an assessment for standards not met in order to show mastery.
2. Students who score 70% or higher can retake summative assessments **1 time**.
 - a. If a teacher chooses to offer more opportunities, the administration will support it.
 - b. Students must complete teacher-recommended intervention before reassessment.
Retakes require no missing assignments for that unit. The student must attend tutoring and/or complete test corrections. The teacher will decide which intervention is appropriate based on the assessment type.
 - c. The retake will be the same level of difficulty as the original assignment or assessment, but may not be the same exam. Teachers may choose to give an oral exam, project, test corrections, etc., with the permission of the supervisor.
 - d. Certain assessments may not be eligible for retakes but the teacher will communicate that prior to the assessment. These could include lab activities or presentations where the assessment cannot be recreated.
 - e. IEP/504 supersedes retake policy and timelines based on the language of the specific students IEP/504.
3. Students have **5 days** from the *release* of summative scores on Infinite Campus to arrange a retake.
4. Students have up until 2 weeks before the end of the quarter to retake.
5. Reassessments should be a part of classroom learning and all effort must be given to avoid after school retake.

Secondary Grading Scale Grades 6-12

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A	90-100%	Excellent
B	80-89%	Above Average
C	70-79%	Average
D	60-69%	Below Average
F	50-59%	No Evidence
P	Passing	(To be used for specific courses designated by the Academic Unit)

Standards/Learning Outcome mastery will be tracked as follows:

4	Exceeds
3	Meets
2	Approaches
1	Emergent
0	No Evidence

Semester grades will be calculated as follows:

First Quarter Grades	42.5% of the Semester Grade
Second Quarter Grades	42.5% of the Semester Grade
Semester Exam	15% of the Semester Grade
Semester Grade	100%

Homework (School-Based)

1. Educators will work collaboratively with their grade-level/course team to set a common school expectation for homework.
2. Homework expectations must be in accordance with [Policy 6143](#) and [Regulation 6143](#).
3. In alignment with these expectations, homework is not required for each subject and content area.

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4. Educators must consider the actual time it takes for students to complete homework rather than their estimation of what can be completed. Refer to [Regulation 6143](#) for more information.
5. Homework should be used for practice or an extension of learning.
6. Completion status of homework will carry no weight in the Grade Book; progress will be reported as a learner behavior/habit of work not as an academic grade.

ACADEMIC DISHONESTY

If a student participates in Academic Dishonesty, they will be given the opportunity to retake the summative assessment for full credit after they complete the retake request form and the teacher gets in contact with their parent/guardian. The student will receive a “U” Unsatisfactory mark on their report card, for the current quarter. If a student participates in Academic Dishonesty, it may lead to a behavior referral and probation.

Tardy Policy

The South Career and Technical Academy's tardy policy is designed to encourage our students to be punctual, thus alleviating classroom disruption. We believe a student arriving late to class without a legitimate excuse constitutes inappropriate behavior, interrupts the learning process, and diminishes the teacher's ability to teach. All teachers are required to establish and enforce procedures to address students who are tardy. Students with excessive tardies will be referred to the Student Success Office for appropriate disciplinary action. A student who is more than 30 minutes late to class will be marked absent for the class. The Student Success Office will conduct weekly sweeps for tardy students. Those students found in excess of tardies will have to serve detention and participate in the Technology Intervention Program (TIP).

Progressive Discipline

Tardies per class period	Total Tardies	Resolution
4 in one class	6	1 hour detention, TIP until detention is served
8 in one class	12	1 hour detention, 5 days of TIP
12 in one class	18	2 hour detention, 5 days of TIP or until Parent Conference
16 in one class	24	RPC and Magnet Probation Conference

Tardy counts will reset at the semester.

CITIZENSHIP POLICY

Students must exhibit behavior that does not interfere with the teaching/learning process, and they are expected to demonstrate employability skills necessary for the 21st Century. School-approved absences do not count toward the rubric below (activities, etc.).

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	Exceptional (2 points)	Satisfactory (1 point)	Needs Improvement (0 point)
Work Ethic	Consistently shows positive work ethic; follows classroom expectations.	Usually shows positive work ethic; usually follows classroom expectations.	Sometimes shows a positive work ethic; sometimes follows classroom expectations.
Endurance	Consistently participates by taking an active role in their education and works cooperatively with peers.	Usually participates and takes an active role in their education, mostly works cooperatively with peers.	Sometimes participates and sometimes takes an active role in their education, works to collaborate with peers.
Sincerity	Consistently takes ownership for work and ensures that work is an accurate representation of their ability.	Usually takes ownership for work and usually ensures that work is an accurate representation of their ability.	Inconsistently takes ownership for work and inconsistently ensures that work is an accurate representation of their ability.
Time Management	Consistently completes work independently, completing and submitting tasks in a timely manner. Submits work within deadlines at least 80% of the time.	Usually completes work independently, completing and submitting tasks. Submits work within deadlines at least 70% of the time.	Sometimes completes work; late submissions, completing and submitting tasks.
Workplace Readiness	Consistently on time for class. Total of 0-3 tardies.	Usually on time for class. Total of 4-7 tardies.	Inconsistently on time for class. Total of 8 or more tardies
Appropriate Communication	Consistently communicates positively both in-person and electronically with peers and staff.	Usually communicates positively both in-person and electronically with peers and staff.	Sometimes communicates positively both in-person and electronically with peers and staff.
Your Community	Consistently observes school wide behavior expectations.	Usually observes school wide behavior expectations.	Sometimes observes school wide behavior expectations.

Scores:

11 and higher= Exceptional

5 to 10= Satisfactory

0 to 4= Needs Improvement

Behavior Expectations:

It is a goal of South Career and Technical Academy to create a college-like atmosphere where students, staff, teachers, and administration interact in a collaborative, professional, and responsible manner. Basic behavioral guidelines include:

- Students will not interfere with teacher instruction.

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- Students will not interfere with another student's learning.
- Students will not engage in behaviors that are not in their best interest, the best interest of others, or in the best interest of South Career and Technical Academy.
- The CCSD Honor Code will be strictly enforced.
- The Acceptable Use Policy (AUP) regarding the use of technology must be followed at all times.

Students and parents are responsible for reviewing the CCSD Student Behavior Guidelines/Honor Code/AUP, the South CTA Student Handbook, and the South CTA Tardy Policy.

Electronic Devices/Cell Phones

At WCTA we believe that cellular phones impede the learning process, therefore cell phones may be used before school, at lunch, and after school in the courtyard area only. Cell phones will only be permitted in the classroom at teachers' discretion. During the instructional period students will be expected to place their phones in a secured designated area so as to not use them during the class period. All of these items will be confiscated if in violation of school rules. A parent/guardian must pick up the confiscated item from the Student Success Office.

Honor Code/Cheating/Plagiarism

Please refer to the South CTA Student Handbook located on the South CTA website.

Computer Use

The South CTA has a powerful student WIFI system which extends throughout the school campus. Students will be able to use their own laptops and tablets during class (at appropriate and/or directed times), at lunch, as well as before and after school. They will learn how to use Google Apps and other internet based resources to store files, manage their digital portfolio, and collaborate electronically. An emphasis will be placed on the appropriate use of technology.

Teacher Expectations

The following classroom rules for Introduction to Engineering Design(IED) are designed to create a safe, respectful, and productive learning environment.

- **Be respectful.** Show respect for equipment, each other, the teacher, and yourself. Foul and disrespectful language, disruptive behavior, and other actions that could interfere with the learning environment are not acceptable..
- **Participate.** Class participation is an important part of the learning process. It can help to improve their understanding of the material, develop their critical thinking skills, increase their confidence, learn from each other, and get feedback from the instructor. Therefore, active participation in classroom discussions, class and/or team activities, and projects is required.
- **Work cooperatively.** This is an important skill in engineering, and it is important to be able to work effectively with others on projects.
- **Be responsible and accountable.** Have all required materials ready at the beginning of class, pay attention during class, complete assignments on time and as directed, and follow all safety and clean-up procedures. If you are absent, it is your responsibility to turn in any assignments that were due and to complete any missed work, including assessments, in the required timeframe.
- **Follow ALL Safety Rules.** Remember, SAFETY FIRST! You must be trained on tools & equipment before using them. Report any issues with equipment and/or work space cleanliness concerns immediately.
- **Utilize equipment properly.** Students are responsible for the safe use and care of all lab equipment. If a student loses or damages equipment, the student will be responsible for

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replacing it. It is understood that, during use, equipment may become damaged in minor ways. This is viewed as normal wear-and-tear. Therefore, students will not be responsible for the cost to repair damage that is classified as normal wear and tear. Attempting to repair, modify and/or “jerry rig” equipment is strictly prohibited.

About your teacher:

I was born and raised in Cleveland, Ohio and graduated from Olmsted Falls High School where I was inducted into my high school athletic hall of fame in 2007. I attended the University of Cincinnati and received her Bachelor of Science in Engineering. With an aerospace engineering and accounting background, I relocated in 2000 and began a landscape contracting company with my husband still active today. I became a licensed teacher in 2005, received my Master’s Degree through Walden University, became Nationally Board certified in Early Adolescence Mathematics in 2016 and then completed a 2nd Masters Degree in Administration. My mission is to provide a high quality mathematical education to students while preparing them for life-long academic achievement by challenging each student and creating critical thinkers. I have been teaching Algebra and Geometry Honors since 2005 and am now teaching Engineering at South CTA

Engineering Foundations II

Mrs. Christine Corbin

By filling out the google form on google classroom, you and your parent/guardian agree that you have read and understand the course expectation for the Engineering Foundations I.