PARENT LETTER:

Dear Parents/Guardians and Introduction to Engineering Design (IED) Students:

Wando has an amazing Engineering Program and we are thrilled for your child and you to be a part of Introduction to Engineering Design(IED). Please take a moment to read the information on the IED Course Syllabus.
Also please take time to thoroughly read the Wando High School Student Handbook so that you will understand our school policies. Once you have read each of the items please sign below and return the form to me for my records by **Monday August 26, 2019.**

As the semester progresses, extra instruction or additional time to work in the engineering lab might be needed so I am typically available at school no later than 7:45 a.m. every day for students to work in the computer lab.

Assessment and project dates are identified well in advance and posted in the lab and on my website. Students are expected to use their planners to keep a record of due dates for all assignments. If your child has to be out of class then it is their responsibility to make up any incomplete or missing assignments. I will require your child to sign a make-up work contract, identifying the day the missed assignment will be completed.

Visit my SharpSchool website! The course syllabus and assignments are posted on my SharpSchool site.

For syllabus, assignments, and due dates:
Visit my SharpSchool Website:
-Go to: http://www.wandohigh.com
-From the menu select “Directory”
-Select “Career and Technology Education”
-Select the “Johnston, Kathryn” link
-Select your course
-View Monthly Calendar for assignment dates
-For assignment content; Click on ‘Curriculum Access’
Curriculum Website Passwords will be assigned per student.
The PLTW LMS is where all course documents can be found.

Also, visit the Parent Portal to see grades: WHSParentPortalHelp@charleston.k12.sc.us.

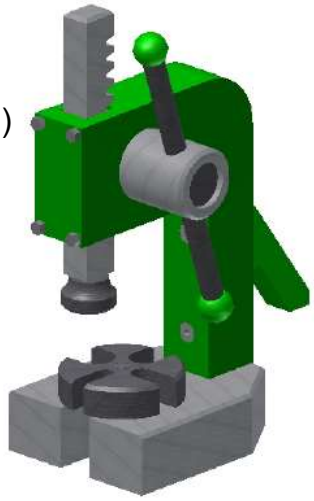
Anytime during the semester that you might have a question please email or call me (see contact information on the syllabus). I am looking forward to a great semester!

Katie Johnston

PLEASE SIGN AND RETURN THIS FORM BY Monday August 26, 2019.
I, the parent/guardian of _____, have received, read and discussed with my child the classroom syllabus for this Introduction to Engineering Design class.
I, the student, have received and read the classroom syllabus for this Introduction to Engineering Design Class.

Parent Printed Name	**Parent Signature**	**Date**
Student Printed Name	**Student Signature**	**Date**

W A N D O H I G H S C H O O L
Career and Technology Education Department



C O U R S E : INTRODUCTION TO ENGINEERING DESIGN Honors (IED)
T E A C H E R : MS. KATIE JOHNSTON
SEMESTER: Fall 2019
R O O M # : H-129/130
E M A I L : KATHRYN_JOHNSTON@CHARLESTON.K12.SC.US
P H O N E : 843.881-8200 x 257-0221
EXTRA HELP: TUE., THU. 7:45-8:20AM

IED COURSE DESCRIPTION:
Introduction to Engineering Design is one of two foundation courses in the Project Lead The Way high school pre-engineering program. The course applies and concurrently develops secondary level knowledge and skills in science, and technology, engineering, and mathematics.

The major focus of the IED course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. IED gives students the opportunity to develop skills and understanding of course concepts through activity, project, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills, creative abilities and understanding of the design process.

The course assumes no previous knowledge, but students should be concurrently enrolled in college preparatory mathematics and science. Students will employ engineering and scientific concepts in the solution of engineering design problems.

In addition, students use a state of the 3D solid modeling design software package to help them design solutions to solve proposed problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges that increase in difficulty throughout the course. Students will also learn how to document their work, and communicate their solutions to their peers and members of the professional community.

As an honors level course, students will be expected to develop problem solving strategies to enable and direct their own learning, to process design problems and mathematical skills at an advanced level, and to comprehend concepts at an advanced pace.

IED is one of several pre-engineering electives out of four students need to attain completer status. Charleston County School District has articulation agreements with state four year and technical colleges to provide the opportunity for college credit. Students are also eligible for work based learning opportunities.

Power Standards and Course Goals
Students in IED will demonstrate attainment of the Accreditation Board for Engineering and Technology Standards (ABET) requirements at the basic educational level for entry into college engineering coursework.
The student will:
A. apply knowledge of mathematics and science, to solve engineering problems
B. design and conduct experiments, as well as analyze and interpret data
C. design a building, site, system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, and sustainability
D. function on multi-disciplinary teams
E. communicate effectively
F. analyze the impact of engineering solutions in a global, economic, environmental, and societal context

COURSE OVERVIEW:

Unit 1: Design Process

Unit 2: Technical Drawing and Sketching

Unit 3: Measurement and Statistics

Unit 4: Modeling Skills

Unit 5: Geometry of Design

Unit 6: Reverse Engineering

Unit 7: Documentation

Unit 8: Advanced Computer Modeling

Unit 9: Design Team

Unit 10: Design Challenges

MAJOR ASSESSMENTS:

Unit 4: Design Project - Puzzle Cube
Unit 5: Advanced Computer Modeling- Arbor Press or Similar Project
Unit 6: Reverse Engineering Project- Product Disassembly
Unit 10:Final Design Problem-TBD

Each student will keep an Engineer's Notebook and a Portfolio of best work which will be assessed periodically throughout the course.

SEMESTER EXAM SCHEDULE:

Exam Week: January 13-17, 2020
All students must take an exam.

COURSE MATERIALS:

- Geometer's Drafting Kit: includes protractor, ruler, compass, eraser
- Mechanical Pencil, 5-7mm
- 1GB flashdrive (minimum size)
- Scientific or Graphing Calculator
- 1 bottle of elmer's or craft glue
- 1 large bottle of super glue

MATERIALS DUE: Monday, August 26

APPS FOR DOWNLOAD:

- Google Drive
- Gmail (for CCSD Account)
- CAM Scanner
- Convert Units
- Canvas (PLTW LMS)

SHARP SCHOOL WEBSITE:

For syllabus, assignments, and due dates:
Visit my SharpSchool Website:

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- Select the "Johnston, Kathryn" link
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- View Monthly Calendar for assignment dates
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Curriculum Website Passwords will be assigned per student. The PLTW LMS is where all course documents can be found.

GRADING PROCEDURES:

Grading Practices:
Grades will be determined using a point system not a category weight system. Each graded project, activity, quiz, homework, exam, or other assignment will be assigned a point value based on the time required to complete the assignment and the importance of the assignment. The student's overall grade will be calculated by dividing the total points earned by the total number of points possible and converting to a percentage.
Approximation of Points Per Semester: 60% Major Assessment points, 30% Minor Assessment points, 10% Daily Assignments.

Engineering Department policy dictates:
Students are allowed to submit any assignment late for a grade, but points will be subtracted based on time.

Several projects span multiple weeks in this course. It is expected that no single day absence, that occurs with four or more days before the due date, will impact the project due date. For example, Arbor Press project start date is November 5th and is due November 21st. Any absence that occurs before November 18th will not impact the due date. It is the student's responsibility to find the time to make up work due to lost classroom time. If an absence spans two, or more days, the student will present a plan of action to the teacher.

Students that participate in field trips will receive no extension. If a project is due on the day of a field trip, the student is responsible for turning it in prior to leaving on the trip. It is the expectation of teachers that students who know of an absence will work ahead of schedule to meet the project due date.

Any daily work/homework that is submitted late (after the bell ending the class on the due date, unless otherwise specified) will lose credit equal to one letter grade per day and any major assignment will only receive a max grade of 89%, subject to mitigating circumstances agreed upon by the teacher. For daily work/homework turned in after four days, the student will receive a maximum score of 33%. Any daily work/homework not turned in will receive a 0%. Any major assignments that are not turned in for grading will receive a 33%.

Late daily assignment:
One day late: 89% max
Two days late: 79% max
Three days late: 69% max
Four days late: 59% max
More than four days late: 33% max
Not turned in: 0%

Late major or minor assignment:
Late: 89% max
Not turned in: 33%

Example Grade:
A student turns in a 60pt major assignment 3 days late.
The student's maximum score will be 89% which is (60pts*0.89) = 53.4pts and then any deduction will be subtracted from that value.

A final exam will count 20 percent of the course grade.
All students must take an exam-no exemptions.

COURSE PRE-REQUISITES:
Algebra 1, B or above

SEMESTER GRADE WEIGHTS:
First Nine Weeks= 40%
Second Nine Weeks= 40%
Semester Exam= 20%

GRADING SCALE:
A= 100-90
B= 89-80
C= 79-70
D= 69-60
F= 59-0

DAILY CLASSROOM PROCEDURES:

1. Student Identification Cards

a). The teacher will greet student at the door to check for IDs.

b). Each student must have a valid identification Card to be admitted to class. If a student does not have an ID, they must purchase a temporary ID.

c). ID's must be displayed in an appropriate manner at all times. ID's must be worn around the neck or clipped above the waist.

2. Attendance and Tardies

a). Attendance is extremely important in advanced courses as many exercised build on one another.

b). It is recommended that absences be reserved for extreme emergencies

c). In the event of an absence, students are required to complete any missed assignments. Students must present a readmit slip indicating an excused absence. **All make-up work must be completed within five days of returning to school, subject to mitigating circumstances.**

d). Students should **check the calendar and print any missing assignments from my website.**

e). Multiple absences in a semester may result in denial of credit. Please refer to the Attendance Policies section of the Student Handbook for a detailed description of the policy.

f). Tardy policy-Check the Student Handbook.

3. Workstation Preparation

a). Students should be prepared with all necessary materials when the tardy bell rings.

b). Students should not alter the computer settings-ie. screen savers, screen backgrounds, mouse pointer, etc.

4. Class Participation and Assignments

a). The teacher will present directions for daily assignments orally and in writing.

b). Students should raise their hands and wait to recognized if they have questions or need help with their work.

c). Students should place assignments to be graded neatly in the designated folder as directed.

5. Emergencies

a). In case of emergency, students should follow the posted evacuation procedures and remain with the the teacher.

6. Dismissal

a). Students will be given time at the end of class to prepare their workstations for dismissal. Students should throw away trash, straighten work area, shut down computers, return material.

b). Students will return to their seats and remain seated until dismissed by the teacher.

DISCIPLINE PLAN:

1. Be polite and respectful. Treat your classmates and teacher with respect
2. Follow all policies and procedures in the "Wando High School Student Handbook and "CCSD Code of Conduct"
3. Follow the teacher's directions the first time they are given.
4. Be seated with all appropriate materials when the tardy bell rings.
5. Keep hands, feet and objects to yourself.
6. Remain seated and quiet unless you have permission from the teacher.
7. Respect the classroom equipment and surroundings.

CONSEQUENCES:

1st infraction: Verbal Warning

2nd infraction: Parent Notified

3rd infraction: Review360 Teacher
Incidient Report Note and parent notified

4th and/or severe infraction: administrative referral and parent notified

***In the case of severe disruptions, the above consequences may be bypassed and the student reported directly to the Assistant Principal.