Introduction to Engineering Design
Course Syllabus

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Course Description: Introduction to Engineering Design (IED) is a one-credit course designed to offer students an overview of the engineering profession and fundamental skills utilized in general engineering. Simulations and projects promoting teamwork, leadership and workplace skills offer further opportunities for application of knowledge and skills.

Required Materials:
- Standard earbuds, not Bluetooth
- Composition book for notes
- Pocket folder for handouts
- Pencil
- Black or blue ink pen (fine tip preferred)
- Pink eraser or art gum eraser
- All other materials provided using class fees.
- Course & TSA Fee
    - **Course Fee:** $65 total by the end of the third week of school
        - $40 for computer lab supplies fee. This also helps pay for certification testing and PPE.
        - $25 for TSA membership.
        - Cash or checks made to ACTC.

TSA: Technology Student Association is a co-curricular component of IED. Students are encouraged to become participating members of the organization as it enhances classroom instruction, helps develop leadership skills and provides opportunities for growth and service. TSA dues are $25.

Course Objectives: The student will be able to:
- Work safely and in cooperation with others
- Successfully complete academic concepts related to engineering topics
- Work independently as well as in team situations to complete projects
- Incorporate a real-world work ethic and attitude in completing all tasks.

Available Industry Credentials: Autodesk Fusion 360 Certified User

Instructional Methods: PowerPoint presentations, cooperative group activities, class discussions, demonstrations, note-taking, role-playing, online coursework, pictures and videos, others as needed.

Course Outline:

1. Design Process	6. Reverse Engineering
2. Technical Sketching and Drawing	7. Documentation
3. Measurement and Statistics	8. Advanced Computer Modeling
4. Modeling Skills	9. Design Team
5. Geometry of Design	10. Design Challenges

Assessment Procedures: Daily assignments (such as bell ringers), tests and quizzes, performance assessments, laboratory work, project reports, assignment completion, class discussion/participation, and project presentation are used in assessing student learning and progress throughout the course. Work not turned in or attempted will receive a zero for the assignment. Students who have an excused absence will have 3 days to make up work.

Schoology: The course is all computer based so most assigned work cannot be completed at home. Utilize Schoology to see what work you are missing while absent. It is the student's responsibility to find out what they missed when absent from class.

Grading:

Major Grades	65%	Tests, projects, portfolio
Minor Grades	35%	Daily work, class assignments, employability grade

Grading Scale: 100-90 A 89-80 B 79-70 C 69-60 D 59-0 F

Class Rules & Expectations:

1. The student will adhere to the guidelines of student conduct set forth in the ACBOE Code of Conduct.
2. Students are to be seated when the tardy bell rings.
3. Tardies are dealt with according to ACTC policy.
4. Classwork is due on the assigned date. I do not accept late work, unless it is due to an excused absence.
5. A zero is earned under the following conditions:
   - cheating (ex. talking during a test, cheat sheets, etc.)
   - <u>failure</u> to make-up missed work due to an excused absence within 3 days
   - an <u>unexcused</u> absence

Expectations	Consequences
1. Be Respectful	1. Student/Teacher conference
2. Be Responsible	2. Parent contact
3. Be Resourceful	3. Parent/Teacher Conference with admin
	4. Office referral

*A severely disruptive student will be sent immediately to the office.

Make-up Work Procedure: Attendance is required. You have three school days to turn in makeup work. **You are responsible for acquiring and completing your make-up work. Schoology has all assigned work.** However, you are welcome to ask questions about and get help with any make-up work that you don't understand.

Cleanliness: Please make sure the area around your desk is clean and neat before you leave each day. We will wipe down all surfaces daily, after each user.

Personal Devices: Cell phone, headphones, camera, and/or electronic device usage is not allowed in the classroom unless specified by the teacher. We have computers in the lab for classwork and research, so there is no need for you to have your phone out. The following system will be in place to make sure students adhere to this policy:

1. Student will receive a verbal warning.
2. Student will be required to keep phone in their backpack, and parents will be notified.
3. Parent/Teacher conference with Admin.
4. Student will receive a discipline referral, which may result in detention, ISS, or other punishment as the administration deems appropriate.

Email: Please make sure you have a personal Gmail account. This will be used to sign up for many accounts in our classroom.

Social Media: We have a class Instagram page where we document our journey through the year. You will be featured on it! Follow @actctsa on Instagram.

Keep these 3 pages. Please return the fourth page.

Cooper's IED Syllabus Return Page

*Your first assignment: Please read the attached information and sign below, have a parent/guardian read the information and sign below, and bring the contract back to class to receive credit. Thank you for your cooperation! I am looking forward to a great year. Parents, please feel free to contact me if you have any questions.

I (we) have read the information about the Engineering curriculum, grading policy, student responsibility, and classroom procedures for Mr. Cooper. I understand my image may be featured on the ACTC website and social media, lobby TV or ACTC social media pages.

I have read the classroom management plan and agree to follow all rules and procedures.

_____   _____

Student Signature   Date

Awesome! Now get your parents to sign this paper, give you the class fee and bring this form and money to class.

_____   _____

Parent/Guardian Signature   Date

Parent/Guardian preferred phone number: _____

Parent/Guardian preferred email address: _____