**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:**
- Facemask, worn correctly at all times
- Standard earbuds, not Bluetooth
- Personal hand sanitizer
- Composition book for notes
- Pocket folder for handouts
- Black or blue ink pen (fine tip preferred)
- Pink eraser or art gum eraser
- Flash Drive or cloud storage account
- All other materials provided using class fees.
- Course & TSA Fee
  - **Course Fee:** *$50* total by the end of the third week of school
    - $35 for computer lab supplies fee. This also helps pay for certification testing and PPE.
    - $15 for TSA membership.
    - Cash or checks made to ACTC.

**TSA:** Technology Student Association is a co-curricular component of BTA. 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 $15.

**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 Inventor Certified User and/or 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. ***Please see the note regarding COVID 19 quarantine/virtual procedures at the end of this document.***

**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 school handbook.
2. Students are to be seated when tardy bell rings.
3. Tardies are dealt with according to ACTC policy.
4. 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**
1. Be Respectful
2. Be Responsible
3. Be Resourceful

**Consequences**
1. Student/Teacher conference
2. Parent contact
3. 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 iPod 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. If you choose to use or make any of these items visible during class, you are giving me permission to hold your item(s) until the end of class.

**Email:** Please make sure you have a Gmail email 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.

**COVID19 Quarantine/Virtual Procedures:**  Most, but not all of the curriculum used in this class can be delivered virtually.  To accomplish this, students will have to create multiple online accounts for different platforms. We will do this during the first week of school. It is imperative that you keep your usernames and passwords written down somewhere safe so you have easy access to them.  I recommend multiple copies.

If you have to be isolated due to COVID exposure during this time, you are expected to keep up with your assignments.  All assignments will be available in Schoology.  Losing your login information will not be an acceptable excuse for not completing work.  If you are diagnosed with the coronavirus, we will make arrangements for make-up assignments.

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


*Students, stop right now and join the IED Class Remind account. Log into your Remind app and add class actcied. If texting, text 81010 the message @actcied.*


*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: _____