

Westover High School
Academy of Engineering Technologies
AGREEMENT FORM 2016-17

Please complete this form and **return only this form** to your Academy Instructor, or the Academy Director. This signed and returned form will be placed in your personal academy folder and will serve as verification that the student and parents/guardians have read and agree to the Academy of Engineering Technologies Handbook and will agree to all Standard Operating Procedures. Parent/guardian signatures and student signature are required.

I, (*Print Student Name*) _____
Here by affirm that I have read the Academy Of Engineering Technologies Handbook.

I further agree, as a member of the Academy of Engineering Technologies, to abide by the Standard Operating Procedures as set forth in the Handbook.

Student Signature

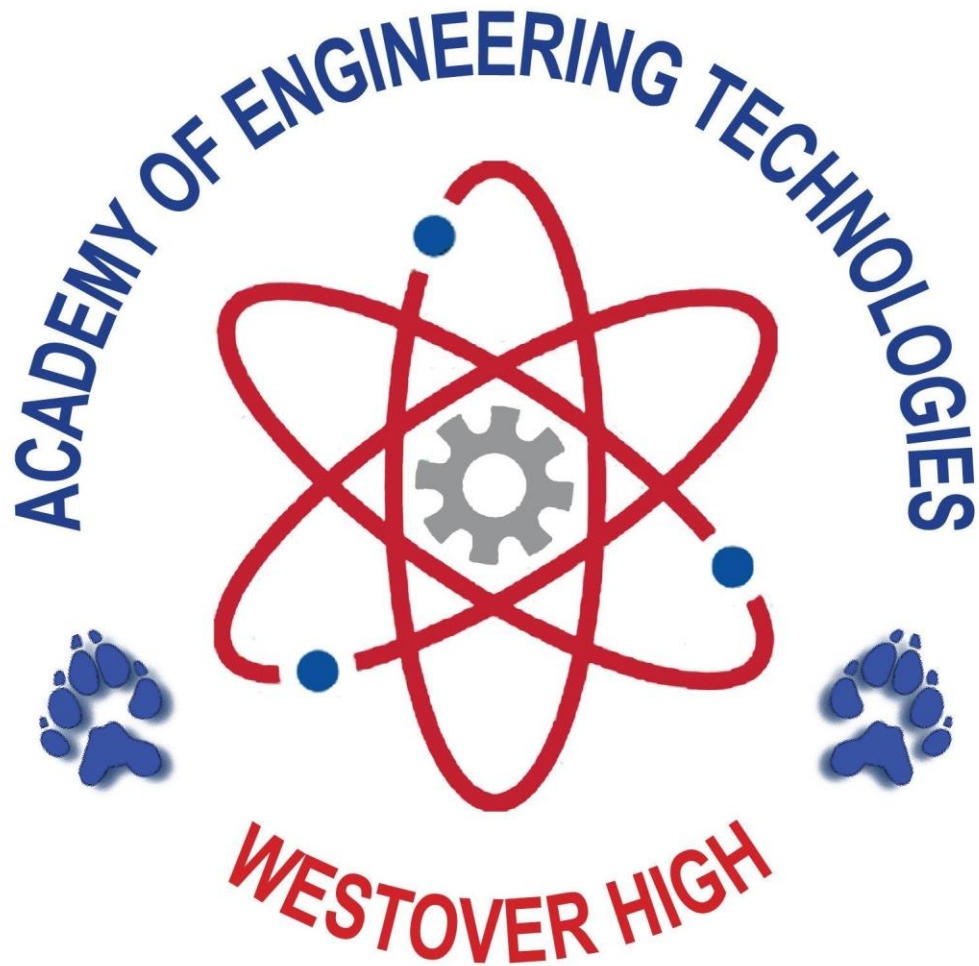
Date

Parent/Guardian Signature

Date

Jeannie Johnson, Academy Director

Date



**Student Handbook &
Standard Operating Procedures**

2016-2017

The Academy of Engineering Technologies
Westover High School
277 Bonanza Drive
Fayetteville, NC 28303
910-864-0190

Welcome to the Academy of Engineering Technologies (AOET) at Westover High School. The AOET follows the *Project Lead the Way* (PLTW) curriculum. This curriculum is a pre-engineering curriculum that prepares students for post-secondary education in an engineering field and/or career. This curriculum consists of (4) required PLTW courses and (1) additional course from the optional list below for graduation. The minimum number of courses required is (5).

Required PLTW Courses

1. Introduction To Engineering (Honors) (first required class)
2. Digital Electronics (Honors)
3. Principles of Engineering (Honors)
4. Engineering Design and Development

Optional Courses (choose minimum of one)

1. Computer Integrated Manufacturing (Honors)
2. Civil Engineering and Architecture (Honors)
3. Drafting II
4. CTE Advanced Studies (not available this year)

Students will not be accepted into the AOET who do not have sufficient time to complete all 5 courses. This curriculum is taught in high schools across the country with great success.

Course Descriptions:

Introduction To Engineering Honors (9-11grade) introduces students to the leading industry 3D solid modeling design software. They will also study the design process, engineering standards and technical documentation.

Digital Electronics Honors (10-11grade) teaches computer simulations to students so they may learn the logic of electronics as they design, test and construct circuits and devices. They will also be exposed to the process of combinational and sequential logic design.

Principles of Engineering Honors (10-11grade, pre-requisite Geometry) allows students to explore the wide variety of careers in engineering and technology and examine various technology systems and manufacturing

processes. Students will learn how to use scientific concepts in the solution of engineering design problems.

Computer Integrated Manufacturing Honors(10-12 grades) teaches students how to employ automation, control systems, sensing devices, Computer Aided Manufacturing software (CAM), Computer Numeric Control (CNC) software, programming, robotics and flexible manufacturing systems to efficiently mass-produce a product using a 3D model.

Civil Engineering and Architecture Honors (11-12 grades) provides an overview of the fields of Civil Engineering and Architecture. Students collaborate on the development of community-based building projects. Not available this year.

Drafting II (11-12grade) focuses on engineering graphics introducing the student to symbol libraries, industry standards, sectioning techniques and Computer Assisted Design (CAD)

Engineering Design and Development (12 grade) is the capstone course which allows students to work in teams to solve a problem by building a product using skills and knowledge gained in other AOET courses.

CTE Advanced Studies (11-12 grades) Focuses on robotics. The course will include a paper, a working portfolio, a presentation, and a project. Students will write, speak, solve problems, use time management and organizations skills to meet the course requirements.

Academic Standards:

Students in the AOET must maintain a grade point average (GPA) of 2.5 overall, with a 3.0 GPA in PLTW classes. Students who fail to maintain the required GPA will be placed on academic probation until the GPA meets the required standards. Failure to meet the standards may result in dismissal from the AOET. Students who fail a PLTW course will automatically be removed from the academy roster and will not be allowed to continue.

Academy Graduation:

Attendance at AOET Graduation is mandatory for seniors who have completed all academy requirements. Other academy students may be required to attend graduation at the discretion of the Academy Director. Attendance to graduation will be by invitation only.

Code of Conduct:

Students are expected to follow the Cumberland County Schools Code of Conduct. Failure to comply may result with the student being placed on probation by the AOET. Students who receive more than a total of two ISS

or OSS offences during a semester will be removed from the academy at the end of the semester.

Student Safety:

Students must always act in accordance with safety standards to prevent injury to themselves or others. Each student and his parent/guardian will be required to read, understand and sign a Student Safety Contract. Students in violation of the contract will be subject to disciplinary action in accordance with the severity of the violation. Violations may include;

- Loss of classroom or lab privileges to include loss of equipment use
- 90 day probation
- Removal from the AOET

Parents/guardians will be notified of any disciplinary actions taken.

Uniforms:

AOET students are required to purchase and wear an official academy uniform after successfully completing the first AOET course. The cost of the academy shirt is \$25.00. Uniforms are worn on each Thursday. There are two acceptable variations of the academy uniform.

1. The **School Uniform** will include the official academy shirt with jeans/skirt and your choice of shoes.
2. The **Professional Uniform** will include the official academy shirt with dark pants/skirt and close toed shoes. No tennis shoes. This uniform will be worn for field trips, interviews or other special occasions where more professional attire is required.
3. Male students must wear their shirts properly tucked into their pants all day for both uniforms.
4. Female students are not required to wear their shirts tucked.

Additional or replacement shirts will cost \$25.00 and may be purchased from the Academy Director or an Academy Instructor. The official uniform may also be worn for special occasions as instructed for field trips, internships or other events where professional attire is required. Students will be given a participation grade of “100” for wearing their academy shirt correctly on each Thursday. A grade of “0” will be given to students who are not in compliance with the uniform policy.

Work Based and Service Learning:

AOET students are required to participate and log hours that are work or career based as well as hours that are related to service to others in the

community which are not fee based. Students are expected to receive approximately 50 hours combined each year totaling 200 hours by the time that they graduate.

- **Work Based Learning** hours may be accumulated from field trips, guest speakers, workshops, camps, internships, etc. Documented participation hours accumulated by *FIRST* Robotics Team members may also be counted as *Work Based Learning*.
- **Service Learning** hours are accumulated when students volunteer to help with a community festival, community clean-up, raise money or awareness for an organization, canned food or clothing drive, or other acts of kindness or service that are approved by the Academy Director. All *Service Learning* hours must be documented and submitted in the form of an official letter or a *Certificate of Participation* to the Academy Director.
- **Job Shadowing** is encouraged as a career learning opportunity for all students. All 11th grade students are required to have an approved and documented job shadowing experience. This experience may be set up by the student /parent or by the AOET. These hours will be included in the 200 total hours required by the AOET for graduation.

Portfolio Requirements:

AOET students are required to complete a portfolio. The portfolio includes the following items:

1. Cover Letter; Introduces yourself and career goals; 9th grade
2. Resume; updated each year
3. Autobiography; 12th grade
4. Reflections; 12th grade
5. Awards and Certifications; copy or justification of award. All grades
6. Examples of Course Work (Engineering Notebooks) All grades
7. Work Based (Job Shadowing) and Service Learning Documents 50 total hours each year.
8. Career Planning and Post-Secondary Documentation or Military Commitments

Students will work on these requirements during each year of high school.

College Credit:

All PLTW courses, with the exception of Engineering Design and Development, are eligible for 3 hours of college credit each through Rochester Institute of Technology (RIT) or University of Iowa. (UI) In

order to receive college credit a student must make at least a 6 stanine score on the end of course exam, (6=C; 7=B; 8 and 9 = A) complete the university application and pay the tuition fee of \$200.00 to Rochester Institute of Technology or \$150.00 to the University of Iowa, following the completions of the WOHS class. Please check the university website for applicable deadlines. Once all requirements have been met and tuition paid, the university will establish a transcript for the student. Upon graduation for Westover High School the student will request that their university transcript be sent to the college/university that the student will be attending. The college credits will then be transferred to their designated college/university. Students may earn up to 15 college credits. For more information please visit the RIT or UI website and search for PLTW

Student Organization

FIRST Robotics (FR) is the student organization affiliated with the AOET. Student membership is encouraged but not required. Membership dues for a first time joiner are \$30.00 which includes a team shirt. Dues for the following years will be \$25.00. Team meetings will be announced at school. Meetings will be held after school and on Saturdays during the robot building phase which begins in the fall. The team will travel to 2 competitive events if funding is available. Parent/guardians are encouraged to support the team by volunteering and traveling with the team. For more information about *FIRST* Robotics please visit www.usfirst.org and click on FTC.

Contact Information

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Please sign the Agreement Form attached to the AOET Handbook and return.

Thank you.