



BBCTA-B125-AE

Aerospace Engineering (AE)
2019-2020

Mrs. Ver Steeg • beverlyversteeg@misdmail.org
Ben Barber Innovation Academy • B125

Syllabus

- **2019-2020 AE** meets every other day AM. Or PM. Monday-Friday
- This syllabus will provide you with the basic information about the course. You **MUST** keep it for future reference in your portfolio, after your parents read it and signed it.

WELCOME

I am very happy to have you in this accelerated **Aerospace Engineering** course at Ben Barber Career and Technology Academy during these next 16 weeks.

WELCOME TO PROJECT LEAD THE WAY!

- Project Lead the Way (PLTW) is a four year sequence of courses which, when combined with traditional mathematics and science courses in high school, introduces students to the scope, rigor and discipline of engineering prior to entering college. However, those not intending to pursue further formal education will benefit greatly from the knowledge and logical thought processes that result from taking some or all of the courses provided in the curriculum. This is the order PLTW Engineering courses should be taken and the recommended grade levels: Introduction to Engineering Design 9th, Principles of Engineering 10th, either (Computer Integrated manufacturing 10th / 11th or Aerospace Engineering 11th), and Engineering Design & Development 12th. PLTW engineering courses will help prepare YOU for college, other higher education after high school, and life.

COURSE DESCRIPTION & OBJECTIVES

Aerospace Engineering is the study of the engineering discipline which develops new technologies for use in aviation, defense systems, and space exploration. The course explores the evolution of flight, flight fundamentals, navigation and control, aerospace materials, propulsion, space travel, orbital mechanics, ergonomics, remotely operated systems and related careers. In addition, the course presents alternative applications for aerospace engineering concepts. Students will analyze, design and build aerospace systems. While implementing these designs, students will continually hone their interpersonal skills, creativity and application of the design process. Students apply knowledge gained throughout the course in a final multi-media project to envision their future professional accomplishments. This is a 18 week course. **Credit: 1 elective.**

TEACHER INFORMATION

A major key to thriving students is teacher/student/parent/family communication. I want all of my students be successful in this class, preparing them for life after high school by encouraging them to listen, solve problems, and strive for excellence.

With parental/family help by providing encouragement and support at home, each student can be encouraged to achieve his or her maximum potential. Please feel free to email Mrs. Ver Steeg at beverlyversteeg@misdmail.org or call and leave a message, if you or your parents have any questions.

Mrs. Ver Steeg is available on request to schedule a conference at Ben Barber Career and Technology Academy BBCTA: 10:05-10:45 a.m. Monday to Friday. The School phone number is 682-314-1600.

ASSIGNMENTS

- ⑥ Pen (MUST use black or blue ink) daily.
- ⑥ Also a Pencil daily.
- ⑥ Assigned PC also must use (Google Classroom and Dropbox accounts here, on iPad at home).

SOFTWARE

We will be using 3-D modeling software called **Autodesk Inventor 2019**. The software can be downloaded for free From Autodesk Student website. This 3-D modeling software is installed on the B126 Lab student-assigned computers. The software is **not** available for Mac users.

<http://www.autodesk.com/education/free-software/inventor-professional>

CURRICULUM UNITS

- Introduction of Aerospace Engineering
 - Evolution of flight
 - Physics of flight
 - Airfoils
 - Air navigation
 - Air traffic control
 - Global positioning system, GPS
- Aerospace Design
 - Aerospace materials
 - Turbine, rocket and space propulsion
 - Flight Physiology
- Space
 - Space law
 - Space junk
 - Orbital mechanics
- Alternative Applications
 - Alternative applications
 - Remote systems
 - Rover design and building
 - Aerospace careers

ASSESSMENT POLICY - One (1) day= four (4) days of course work. Six weeks = 2 six weeks of work.

According to District Policy, a course's grading periods will be averaged together for 80% of the overall grade.

⑥ Major Project/Tests / Quizzes/ Eng. Notebook	40%
⑥ Daily /Classwork / Portfolio.....	60%

NOTE: The final exam online from PLTW will represent 20% of course grade.

End of Course Exams (Final Exam)

You will review for this exam by using your engineering notebook that you create.

No Exemptions

LATE WORK

This is an accelerated course. Assignment due dates are established. There will be a standard deduction of 10 point per class day for late work. **Most work is due at the very start of class. Work turned in the day due but after the start of class will be counted 30 points off. Teacher will assume you worked on this now late work during class.** It is important that you communicate any special circumstances regarding absences and late work to Mrs. Ver Steeg ASAP.

Academic dishonesty

Teachers determine what constitutes cheating and/or plagiarism.

Consequences for academic dishonesty

Daily Work

- Every Offense
 - Academic and Disciplinary Consequences
 - Assign grade of zero
 - Write a referral
 - Teacher contacts parents Consequence from administrator would be a minimum of AC placement
 - **Exams or Other Major Assessments**
 - Every Offense
 - Academic and Disciplinary Consequences
 - Assign grade of zero
 - Write a referral
 - Teacher contacts parents
 - Consequence from administrator would be a minimum of AC placement
 - An alternative exam or major assessment can be completed for a maximum grade of 70%
 - Academic Associate is notified and will schedule a meeting with student, parent and teacher

All students in our PLTW engineering program of study are required to complete an end of course test. This will occur on or before the regular district final exam schedule. All students will take this test and it will serve as their final exam grade for the course. Notice you cannot be exempt from this Final Exam (no exceptions). So use your exemptions for your other classes.

CAMPUS & CLASSROOM ENVIRONMENT

Our campuses and classrooms provide amazing resources that must be shared. Both you and I will abide by these policies as well as those established by the Mansfield ISD school board policies:

- **Be respectful of one self** - Come to class prepared with your materials and assignments; be dressed and groomed in accordance to school codes.
- **Be respectful others** - The focus of the class is on learning. Distracting behavior will not be acceptable.
- **Be respectful of property and equipment** - Clean up after yourself and take care of items that are placed in your care. Put things back where and in the way you found them.
- **Be responsible** - Take care of your assignments and other business at appropriate times.
- **Be reliable** - Be prepared and on time for class.
- **Be a team player** - You will have plenty of opportunities to team up with and/or help others in the class. Do the work and on time, carry your part of the load, and do it with a good attitude and with your heart. Winners never give up, just keep trying and working and it will come.

We are here to become more powerful people: to become leaders that make our communities better. Respect plays out in many ways, including paying attention, doing quality work, being ready to learn and participate and supporting each other. Here is where we can hone our individual and team skills. This is your opportunity to act in the intention of helping each other grow. Give your best effort. Do quality work and let's inspire each other to greater heights of personal satisfaction and achievement.

B125• CLASSROOM EXPECTATIONS

1. **SIGN IN** at table by the door. This is how attendance is taken. It is your responsibility.
2. **Students are to be seated at the tables** when the bell rings and ready to start.
3. **ASSIGNED SEATS** - students must sit at their table and assigned computers and are not allowed to use other computers unless specifically directed to by the instructor.
4. **Backpacks, purses and other large items** must be in the assigned area (tables only not the computer area) for each student. This includes iPads, cellphones, and other electronic devices.
5. **Class participation** - Students are expected to actively participate in class daily. Passive learners don't learn much, you need to be actively involved in this class. This will show in your daily work (assignments) and also on Test and Quizzes.

6. **Missed Work/Assignments and Test** - It is your job to look on **Google Classroom** before you come back from missing this class, **before you come back to class**. That way you will know what you missed and many times can go ahead and do the work or at least start it. Please ask the teacher for anything you don't understand about the missed work/assignment when you return to class. **Keep in mind you are expected to already know what you missed. Must be completed ASAP.**
7. **Lab Safety / Health** - Students are expected to follow classroom rules, listen to and follow instructions (written and/or verbal), and use common sense when working in this class. More detailed information will follow as necessary.
8. **Out of respect** for our learning environment, **YOU MUST** silence your phone before you enter the class and place all electronic devices in your back pack, including iPad, phone, all ear buds (headphones) before entering. No phones should ever be seen or heard by the teacher in this class. During lecture and class discussions this is important to maintain necessary focus. **BYOD Policy** - Mansfield ISD has a BYOD policy in place; however, with access to computers in the classroom daily, **the use of cellular device is never allowed in class.**

Having cell phones out in class (bell to entry classroom to the dismissal bell) will result in a disciplinary office referral. This includes the time for cleanup, just keep your phones put away until dismissed by the teacher.

- **iPad Classroom Rules**

- Make sure ear buds and headphones are put away and out of sight before entering the classroom.
 - Put your iPad in your back pack before entering the classroom including all electronics.
 - Make sure ear buds and headphones are put away and out of sight in your back pack before entering the classroom.
 - Make sure the sound is off before entering the classroom and put away in back pack. iPads need to remain in your back packs. Never take iPads to the computer area. You will not use them in this classroom, so you will need to have in your backpack.
9. **Computers are to be left in the same configuration as found** (including screen background, etc.). Remember these are not your personal computers. A record is kept of your technology usages by way of Net Support and it records all activities on the computers.
 10. **Outside storage** devices are not to be used in the B126 Computer Lab without the permission of teacher. Please don't bring memory sticks to class or ever put them into the computers.
 11. **No food is allowed** in the computer lab. Only drinks with a screw cap is allowed at the tables.
 12. **Printing** - Some assignments may be printed to a central network printer. Students should proof read work before printing. Any printing of items not pertaining to this class requires specific permission from the instructor.
 13. **Worksheets** - Students will be given one copy of each worksheet and/or instruction sheet needed. The work is listed on **Google Classroom** for the schedule of the work and when the work is due. If the student loses the worksheet and/or instruction sheet, it is expected that the student reprints as needed whatever was lost, from Google Classroom on their own printer.

ABSENCES & TARDIES

All assignments will be accessible electronically on GoogleClassroom.com. It is your responsibility to get any information missed if absent on **Google Classroom** for this class. Because this course is condensed to three six weeks, all work will have a maximum late submission date which is the 10th class period late or before the six weeks has ended, whichever comes first. It is up to the student to get missed work completed on a timely bases. Tardies: Students need to figure out how to get to class on time. The district's policy is on the 4th tardy and every tardy after students will receive an office referral. BTW I follow this policy.

Re-take Policy

- Students who fail a major test/assessment (below 70%) will be allowed to retake or correct up to a 70% grade. This does not include semester examinations.
- Students are expected to make arrangements with the teacher to retake or correct a major test/assessment.
- Students are encouraged to participate in tutoring opportunities before retaking a test.
- Each teacher will communicate routine requirements for retakes and corrections in his/her course syllabus.
- All retakes or corrections must be completed prior to the end of each six week grading period unless the student is afforded time, after the six week grading period, as a result of the district's absent/make-up guidelines.

When You Are Absent or Have Missing Assignments

It is your responsibility to let me know that you are in need of help. You must check and use Canvas (for Lesson Plans and files needed) to get caught up on any and all work you missed or are behind on. If you need help let me know otherwise you will need to make up the work on your own. Please keep in mind, we only meet 49 times this semester and this counts, as a whole school year course, so you get 1 whole credit for this class. We meet 3 hours each time we meet. When you miss you will get very behind on your work. It is your job to get the missing work done ASAP. Please don't miss if there is any way you can help it, because you are still responsible for the missed work and it is on you to get it done.

Posting Student Work - Student grades will be posted in Skyward parent portal within five business days for daily grades and major grades. Special consideration is given to major projects, including lengthy assignments.

DISTRICT POLICIES - The student and parent must sign the computer rules policy provided by the Mansfield ISD. All district and campus policies will be followed and enforced in this classroom. MISD and BBCTA/FHS policy will be followed in relationship to cell phones and electronic devices in the classroom.

KNOW THIS . . . You will be challenged each day to live your life with a purpose . . . so regularly ask yourself, "Do I know that my choices are affecting ME either positively or negatively and WHO I am becoming and who I will be in the future?"

Materials to be Purchased by Parent / Student

A 1 1/2" inch (not a 1") three ring binder with pockets. This portfolio needs to be new or in very good shape. **Do not** mark the outside cover, front or back. Please print on the inside of the front cover your name with a Sharpie or ink pen.

1 package of Divider Pages (5 count okay), **MUST** be able to label.

2 rolls of transparent tape $\frac{3}{4}$ " wide

The above materials due by: A-day _____ and B-day by _____

Teacher Provided: NEW Composition Book Graph Ruled 9 $\frac{3}{4}$ " X 7 $\frac{1}{2}$ " (**SPIRAL NOTEBOOKS ARE NOT ACCEPTABLE**). **You mess it up or loss it...you will need to buy a new one same size, etc...**

Calculator - scientific with "sin, cos, tan" minimum OR a graphing calculator. Bring to class if you have one, **don't buy one for this class if you don't already have one.**

Please label all of your property with first and last name and class period

Certifications

There are no certifications offered with this course.

THIS IS YOUR LIFE . . . Your one-and-only life on this planet. You determine what's possible. Make good choices, ask questions, think, and take positive steps - today is the day. Each day life offers itself to us in an endless number of ways. Each moment comes to us with both hands filled with gifts, marvels, opportunities and adventures - but we seldom see or accept more than a tiny fraction of the exciting possibilities around us. Let's be daring, be bold and be true to ourselves. Let's make the most of these opportunities to work together and to learn from each other.

STUDENT & PARENT SIGNATURE PAGE

Please sign and return this packet after reviewing the Course Syllabus, Classroom Policies and the Mansfield ISD Acceptable Use Policy (AUP).

My child and I understand that he/she must comply with these regulations. We realize that if he/she fails to abide by the rules, he/she will adhere to the sanctions listed and will not be able to participate in this computer-based lab or regular classroom.

District policy states that every student will **wear** an ID and have a **signed Acceptable Use Policy (AUP)** on file every day to be able to access any MISD networked computer.

Your signatures below indicate that you have received, reviewed, and accept the course syllabus, classroom policies and the Acceptable Use Policy (AUP) of the Mansfield ISD.

Student's Name: _____

Student's Signature _____ Date: _____

Parent's/Guardian's Name: _____

Parent's/Guardian's Signature: _____ Date: _____

Grade Classification: _____

Mrs. Ver Steeg

B125 | Ben Barber Career Innovative Academy | Mansfield, Texas

beverlyversteeg@misdmail.org

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