**Course Syllabus**

**2014-2015**

**AVIATION MAINTENANCE TECHNOLOGY**

**CIP 47.0608**

# **Kent Aviation Center**

**I**nstructor: Mr. Todd Olson **T**elephone: 616-301-8831

**E**mail: toddolson@kentisd.org

**COURSE DESCRIPTION**

The two-year course introduces students to the knowledge and skills required in the field of aviation maintenance technology. The program also explores the careers of pilots, aeronautical engineers and a variety of airport-related career opportunities. The major areas of study include theory of flight, aerodynamics, aircraft structures and flight controls, powerplant familiarization and operation, hydraulic and landing gear systems, aircraft fuel systems, ground handling and servicing, aircraft weight and balance procedures, Federal Aviation Regulations and math and basic physics. Students are also exposed to the installation, servicing and testing of various aircraft and engine systems, aviation terminology, aviation tools, and sheet metal fabrication in the laboratory portion of the course. Students will attend the course at Gerald R. Ford International Airport. A Federal Aviation Administration (FAA) certified aviation maintenance technician instructs the students. The airport’s department of aeronautics, airlines, corporate and fixed base operators are used for training, tours, job shadowing, and employment opportunities. Students may earn college credits from Lansing Community College and Baker College upon satisfactory completion.

**Course Topics**

Aviation Safety Basic Inspections

Ground Operations and Servicing Airframe Structures

Landing Gear, Wheels, Tires, and breaks Flight Controls’

Fuel Systems Utility Systems

Basic Electricity Electrical Systems

Foreign Object Elimination 100 Hour Inspection

Reciprocating Engines Turbine Engines

Propellers Ice Control Systems

Aircraft Drawing Physics and Math for Aviation

Problem Solving

**Resources/ Textbooks**

FAA-H-8083-30 Aviation Maintenance Technician Handbook-General

FAA-H-8083-32 Aviation Maintenance Technician Handbook-Powerplant, Vol I

FAA-H-8083-32 Aviation Maintenance Technician Handbook-Powerplant, Vol II

FAA-H-8083-31 Aviation Maintenance Technician Handbook-Airframe, Vol I

FAA-H-8083-31 Aviation Maintenance Technician Handbook-Airframe, Vol II

FAA.GOV Advisory Circulars

Moodle

**Grading**

KCTC supports grading practices that are consistent, accurate, meaningful and supportive of learning.

KCTC grades are reported in two ways – Semester grades (A, B, C, D, E) and a year-end Certificate identifying a proficiency level on each course standard.

KCTC issues grades on a quarterly (9 week) basis. This quarter grade is composed of 70% Technical skills and 30% Career and Employability skills.

The semester grade is determined by combining the two quarterly grades, the semester industry evaluation, and the embedded academic content within a course. Each quarter counts for 42% of the grade, the industry evaluation counts for 10% of the grade, and the academic content counts for 6% of the grade. When viewing grades on PowerSchool, it is always important to look at the S1 or S2 grade as the overall in-progress grade for the course.

Technical skill grades are issued on assignments and assessments which represent a total number of points earned. This total number determines a percentage of points earned and a letter grade is assigned accordingly. Assignments and assessments in this type of grading are categorized as either formative or summative. Formative work guides learning. Summative work measures how well something has been learned. Summative work is weighted more than formative work. Students may earn the opportunity to redo or retake summative assignments and assessments. These retakes must be completed by the end of each quarter.

Students will be issued Career and Employability summative scores at least twice per quarter to provide feedback on the skills of Teamwork, Problem Solving, and Personal Management. Students will also earn scores in Career Planning. The combination of these scores will determine the Career and Employability skills grade.

Pre and Post Testing – at times, students will be asked to complete pre-instruction assessments to aid the teacher in designing learning. These pre-assessments will be scored, but they will not affect the student grade. It is important for a student to make their best attempt on a pre-instruction assessment to help the teacher design appropriate instruction. After instruction the student will complete a post-instruction assessment to determine how well they learned the skill. This will be scored and will affect the student grade.

Additionally, scores are issued to students to reflect the proficiency level they have achieved on particular Industry Standards. The Standards scoring scale: 0 – Not attempted, 1 – Beginning, 2 – Developing, 3 – Proficient (meets industry standard), and 4 – Advanced Proficient. Students will also be issued a quarterly Standards score (0 – 4) in the Career and Employability skill areas of Teamwork, Problem Solving, and Personal Management. At the end of each year, students will be issued a Standards score (0 – 4) in the area of career writing proficiency and math proficiency as well. These scores are reported on the year-end Certificate which is used by employers to assess industry skill levels.

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| Rubric Average Range | | Score out of 100 | Description | Standard in PowerSchool | Letter grade |
| 4.00 | 3.50 | 100 | Advanced | 3 or 4 (judgment) | A |
| 3.49 | 3.00 | 94 | Proficient | 3 | A |
| 2.99 | 2.80 | 90 | Proficient | 3 | A- |
| 2.79 | 2.66 | 87 | Proficient | 3 | B+ |
| 2.65 | 2.41 | 84 | Proficient | 3 | B |
| 2.40 | 2.16 | 80 | Developing | 2 | B- |
| 2.15 | 1.91 | 77 | Developing | 2 | C+ |
| 1.90 | 1.66 | 74 | Developing | 2 | C |
| 1.65 | 1.41 | 70 | Developing | 2 | C- |
| 1.40 | 1.16 | 67 | Developing | 2 | D+ |
| 1.15 | 0.91 | 64 | Developing | 2 | D |
| 0.90 | 0.66 | 60 | Beginning | 1 | D- |
| 0.65 | 0.46 | 58 | Beginning | 1 | E |
| 0.45 | 0.23 | 56 | Beginning | 1 | E |
| 0.22 | 0.00 | 50 | Beginning | 1 | E |
| Not Assessed by the teacher | | |  | [Blank] | [Blank] |
|  | | | |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 4 Advanced | Performs above and beyond expectations. Can assist others in learning task | | | | |
| 3 Proficient (the goal) | Meets industry standards for entry-level employment (Job Ready); Able to perform task independently | | | | |
| 2 Developing | Needs more practice to meet industry standards for entry-level employment; Needs some assistance with tasks | | | | |
| 1 Beginning | Not progressing toward industry standards for entry-level employment; Close supervision needed | | | | |
| 0 | Student refused to attempt | | | | |
|  |  |  |  |  |  |
| Formula for calculation | Sum of Scores/number of items = score (0 to 4) | | | | |
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**SKILL ACHIEVEMENT**

**Tests**

Test may consist of three separate parts: written, oral, and a practical component (the majority will be written- in the online classroom). The written portion will be multiple choice, true/false, short answer essay, or a combination of all these type of questions. Also, each segment of learning will have a list of vocabulary words that will be taught throughout the segment- these terms will make up a component of the written test.

**Semester Evaluations**

Each semester, students are evaluated by the members of the Aviation Maintenance Technology Program’s Advisory Committee. These are professionals in the Aviation industry. The evaluations include hands on practical projects and oral quizzing. The Evaluation constitutes 10% of the semester grade.

**Projects**

Projects will consist of practical hands-on laboratory or hangar assignments with oral checkouts, computer, aircraft maintenance manual research assignments, and workbook assignments. Project participation and/or completion constitutes 35% of the nine-week grade.

**Career & Employability**

A student Work Behavior Check Sheet (provided the first week of class) is utilized to provide criteria for rating the student's work behaviors. These will include such things as tardiness, time on task, teamwork, cooperation, safety habits, timelines of completion of projects, and professional behavior in accordance with the expectations of the aviation world of work. The work behavior score constitutes 30% of the nine-week grade.

**Late/ Make Up Work**

Late work will be handled using thorough communication with student, parent, and teacher while following the guidelines of the RTC process.

***Barring personal emergencies or other mitigating circumstances the following policy will be followed: Most tests and assignments will be offered in the online classroom to maximize accessibility. Since tests are the summative assessments that count toward grading, students are allowed to take exams multiple times in the online classroom for up to one week (7 days) after the test is initially administered in class. Due to the structure of this course, make-up tests cannot be allowed after the one week mark because each of the topics of study are covered in approximately a one week time period. Due to the participation of industry professionals, semester evaluations cannot be made-up!***

**LEADERSHIP OPPORTUNITIES**

The Kent Aviation Center operates a student lead organization in unmanned aerial systems (UAS). Each student is provided an opportunity (student must join to become a member) to engage a cutting edge industry organization governed by a constitution, participate in organizational development using Roberts Rules, and compete with peers in the precision use of UAS technology.

**CODE OF CONDUCT/ ATTENDANCE**

Students are expected to arrive on time daily, sign in, and fully participate in the class activities without infringing upon the rights of others and to conduct themselves in accordance with the expectations of KCTC and the Aviation world of work. Should a student be late or absent, they are expected to locate the days’ assignment in the online classroom and begin make-up work as soon as practical - *daily work is due by the end of the day (if tardy) or week (if absent), tests are due in accordance with the late work policy above*. Also, students should provide advance notice (phone call or e-mail to instructor) of absence and a parent or teacher note when able. Loss of credit due to absence or tardiness is determined by your local school. Cell phones, MP3 players, tablet computers, or other personal electronics become a significant safety and classroom management risk and thus are strictly prohibited at the Aviation Center. Students found using these items will earn the right to be technology free for the remainder of the class period and follow the RTC process. Additional infractions will result in further opportunities for clear thinking!

**With your full participation and focus this will be a revelatory, rewarding, and enjoyable year of aeronautical learning. Welcome… to Kent Aviation Center Aviation Maintenance! ☺**