



**Basic Course Information:** Aviation Maintenance Technician Program

**Course Number(s):** AMT09 and AMT10

**Section Number(s):** 7109 and 7110

**Class rooms:** AT B103/HGR and AT B203

**Class hours:** (8:00 – 10:10) and (10:15 – 13:35)

**Title:** Assembly, Rigging and Inspection and Assembly, Rigging and Inspection Lab.

**Instructor's name:** Luice Yang

**Office:** TBD

**Office hours:** Monday – Thursday (7:30 am - 8:00 am)

**Phone number:** (562) 607-1633

**E-mail address:** TBD

**Students with disabilities who believe they may need accommodations in this class are encouraged to contact Disabled Students Programs and Services located in Heldman Learning Resources Center (HRLC) 119, phone number 310-287-4450 as soon as possible to better ensure such accommodations are implemented in a timely fashion.**

**Prerequisite/Co-Requisite:**

It is recommended that AMT09 and AMT10 be taken concurrently.

**Required textbooks:**

1. Aviation Maintenance Technician Handbook, F.A.A. H-8030-30 (or equivalent textbooks and workbooks). Author/Publisher: Department of Transportation (DOT) Federal Aviation Administration (FAA).
2. A.C. 65-12A (or equivalent textbooks and workbooks). Author/Publisher: DOT/FAA
3. A.C. 65-15A (or equivalent textbooks and workbooks). Author/Publisher: DOT/FAA
4. A.C. 43.13-1B: Author/Publisher DOT/FAA
5. A.C. 43.13-1A and 2A: Author/Publisher DOT/FAA
6. Federal Aviation Regulations (FARs) for Aviation Maintenance Technicians. Author/Publisher: DOT/FAA

## **Recommended materials/equipment:**

### *Assembly and Rigging*

- Aircraft with Operating Flight Control Systems
- Rigging Tools and Equipment
- Control Cable Fabrication Tools and Materials
- Aircraft maintenance / Parts Manuals (Cessna 150, Piper PA23 and Beechcraft A36)

### *Weight and Balance*

- Cessna 150 or Similar Complete Airplane
- Aircraft Weighing Scales
- Aircraft maintenance Manuals

### *Fluid Lines and Fittings*

- Aircraft Metal Tubing and Tube Fittings
- Aircraft Flexible Hoses and Fittings
- Tube Cutting, Bending and Flare Forming Equipment
- Hose Fabrication Equipment

## **Course(s) description overview:**

Instruction is offered in aircraft structure, nomenclature, theory of flight, in assembly and rigging techniques, including computing weight and balance data. Instruction is also provided in fabrication and installation of fluid lines and fittings.

## **Course(s) learning goals/objectives:**

This course will help students achieve the following institutional Student Learning Outcomes:

1. Student will be knowledgeable in basic aerodynamics, aircraft structure and the theory of flight.
2. Student will be knowledgeable in assembling aircraft components by following the Aircraft Maintenance Manual and Illustrated Parts Manual.
3. Students will be able to perform a complete flight control rigging procedure.
4. Students will be able to inspect and identify component location by using aircraft manuals.
5. Student will be able to determine if weight and balance is within safe range on various aircraft.
6. Student will be knowledgeable in the fabrication of fluid lines.

## **Tentative Schedule: (June 12, 2017 – August 6, 2017)**

### **Week 1:** June 12 - 16

- Orientation
- Aircraft Nomenclature; Fuselage and Wings
- Aircraft Nomenclature; Empennage and Landing Gear
- Aircraft Nomenclature; Flight Controls

**Week 2:** June 19 - 23

- Theory of Flight; Atmosphere Characteristics
- Theory of Flight; Stability and Control
- Theory of Flight; Rotary-Wing Aircraft

**Week 3:** June 26 - 30

- Rigging Fixed-Wing Aircraft
- Rigging Rotary-Wing Aircraft
- Checking Alignment of Structures

**Week 4:** July 3 - 7

- Assembling Aircraft Components
- Balancing, Rigging and Inspecting Flight Control Surfaces
- Assembling Control System Components

**Week 5:** July 10 - 14

- Jacking Aircraft
- Weight and Balance Computations
- Computing Equipment Changes

**Week 6:** July 17 - 21

- Computing Ballast
- Load Schedules
- Single and Double Tube Flares

**Week 7:** July 24 - 28

- Tube Bending
- Tube Installation Procedures
- Tube Beading and Tube Repair

**Week 8:** July 31 – August 4

- Fabrication and Installation of Flexible Hose
- Review for Final Examination
- Final Examination

**Instructional Methods:**

Lecture with PowerPoint presentation, video presentation of subject matter, chalk (white) board and hand out materials.

**Lecture and class participation:**

Reading assignments are given in class. Lecture and class discussions will follow the order in the book being used. You are requested and encouraged to participate in the lecture classes. Participation is important and can make a difference in your grade.

## **Lab and participation:**

You are required to complete all lab assignments to receive a passing grade in lab. Lab projects may consist but not limited to the following projects: assigned workbook assignments, group project assignment, rig rotary and fixed wing aircraft, check alignment of structures, assemble flight control components, including flight control surfaces. Balance, rig and inspect movable primary and secondary flight control surfaces, jack aircraft, weight aircraft, perform complete Weight and Balance check and record data, and fabricate and install rigid and flexible fluid lines and fittings.

**Grading System:** A grade of "C" or better is required for FAA credit (14 CFR Part 147)

Lecture grade – all lecture test scores (75%), Final exam (20%) and attendance/class participation (5%). **EXTRA POINT (3%)** --- Aviation topic related article summary, 1 summary per 1 point. The summary must be typed and double space, it must include article source, title, author, date and body text on 1 full page.

Lab grade rating scale:

1. A (90-100%) demonstrates the ability to take accurate measurements.
2. B (80-89%) demonstrates competence in taking measurements.
3. C (70-79%) demonstrates understanding of the basic principles and procedures.
4. D (60-69%) demonstrates only partial basic understanding of correct procedure.
5. F (<70%) demonstrates no understanding of correct procedure. Incomplete lab assignments.

## **Policies**

### **Attendance policy:**

Roll will be taken at the beginning of each class each day.

There is a strong correlation between attendance and grades. Poor attendance goes along with poor grades.

You are responsible for information, exams, date changes etc. Presented in class whether you are present or not.

To meet the code of Federal Regulation (**14 CFR Part 147**) related to attendance a student cannot miss more than **THREE (3) DAYS** out of lecture or lab. If any time beyond, where the total attendance adds up to more than three days, it will have to be made up. When a student absences or tardiness beyond **FIVE (5) DAYS** the instructor has the right to exclude the student from class at his/her discretion.

Time can be made up but it is at the sole discretion of the instructor, and the instructor is not required to allow you make up time.

Add slips must be completed and processed with admissions by the end of the first week of class. If you fail to do so you will be terminated from the class.

West Los Angeles College "Standards of Student Conduct", this includes on plagiarism, classroom disruption, cell-phone noise, or other issues.

## **Safety Rules**

Eye protection – is required by each student and must be worn at all time in labs when working on any project/operating any machinery may cause hazardous if is not worn.

Loose clothing – may not be worn in the labs as it constitutes a safety hazard.

Shoes – shoe must be worn in all lab classes. Sandals and open toe shoes are not acceptable in labs.

## **Recommendations for student success:**

1. Be in class every day, on time, and stay for the entire time.
2. Be prepared to work, and have your tools with you.
3. Learn to be organized.
4. Study and review for each day.
5. Keep up in the workbooks and do not fall behind.
6. Find someone in the class you can call if you miss a class so you know what is happening with the class.
7. If you do not know, ask. Remember the only stupid question is the one you did not ask! Keep in mind that nobody knows everything, so ask your question because the person seating next to you may not know!

## **Required tool list:**

1. Hammer 8 oz. ball-peen
2. Pliers 6" slip joint
3. Pliers diagonal
4. Pliers duckbill
5. Screwdriver #2 Philips 6"
6. Screwdriver common 6"
7. Wrench combination set
8. Socket set 1/4 and 3/8 drive.
9. Scale 6" in 64<sup>th</sup> and 100<sup>th</sup>
10. Mirror swivel (telescopic)
11. Flashlight
12. Safety wire pliers
13. Magnifying glass, 4-5 power
14. Safety glasses