

**WEST LOS ANGELES COLLEGE**  
**AVIATION MAINTENANCE TECHNOLOGY**

**COURSE TITLE:** Powerplant Troubleshooting and Testing

**COURSE NUMBER(S):** AMT 21 & 22

**SECTION NUMBER(S):** 6221/6122

**CLASS HOURS:** 4:45-8:10, 8:10-10:25

**CLASS ROOMS:** AT B 120, AT B 203

**INSTRUCTOR:** Martin Nee

**OFFICE:** ATB 124

**OFFICE HOURS:** Monday – Thursday 3:45 – 4:45

**PHONE NUMBER:** 310 287 4345

**EMAIL:** [neem@wlaac.edu](mailto:neem@wlaac.edu)

**Disabled Students Programs & Services**

DSP&S opens doors for students with special physical, communication or learning needs. DSP&S students may qualify for: priority registration assistance, special parking permits, sign language, interpreters and assistive technology.

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 119, phone number 310 287 4450 as soon as possible to better ensure such accommodations are implemented in a timely fashion.

Prerequisites/Co-requisites: None

**Course Description:** Instruction is offered in powerplant inspection and troubleshooting procedures. Course includes turbine engine theory and operation

**Course Objectives:** Students will be able to inspect, check, service, repair, overhaul, and troubleshoot turbine engines.

### **TEXTBOOKS AND INFORMATION RESOURCES**

The following texts are considered necessary reference for student technical and laboratory work.

Textbook: Author or Publisher

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A.C.65-12 (or equivalent textbooks and workbooks, as are currently available):  
Department of Transportation/Federal Aviation Administration

A.C.43.13-1B: Department of Transportation/ Federal Aviation Administration

14 CFR Part 43 Federal Aviation Regulations for Aviation Maintenance Technicians:  
Department of Transportation/ Federal Aviation Administration

### **EQUIPMENT AND MATERIALS**

#### Turbine Engines

- Complete Aircraft Turbine Engines
- Aircraft Turbine Engine Components
- Turbine Engine Overhaul Tools
- Turbine Engine Inspection Tools
- Turbine Engine Overhaul Tools
- Complete Aircraft or Aircraft Mockup with Turbine Engine Installation
- Aircraft Maintenance Manuals
- Turbine Maintenance and Overhaul Manuals

#### Unducted Fans

- Text Materials

#### Auxiliary Power Units

- Aircraft Auxiliary Power Units
- Text Materials

## TEACHING SEGMENTS

### Subject

### Title

Subject	Title
1. Turbine Engines Engines	History and Types of Turbine
2. Turbine Engines	Turbine Engine Principles
3. Turbine Engines Nomenclature	Turbine Engine
4. Turbine Engines Formulas	Turbine Engine Mathematical
5. Turbine Engines	Inlets and Compressors
6. Turbine Engines	Combustion Chambers
7. Turbine Engines	Turbine Sections
8. Turbine Engines	Exhaust Systems
9. Turbine Engines	Lube and Fuel Systems
10. Turbine Engines Overhaul Procedures	Turbine Engine General
11. Turbine Engines Procedures	Turbine Engine Maintenance
12. Turbine Engines	Turbine Engine Inspection
13. Turbine Engines Mounting	Turbine Engine Storage and
14. Turbine Engines Pre-installation Procedures	Turbine Engine Removal and
15. Turbine Engines Electrical Installation	Rigging Controls and
16. Turbine Engines	Turbine Engine Instruments
17. Turbine Engines Procedures	Service and Starting
18. Turbine Engines	Troubleshooting
19. Unducted Fans	Concepts of High Bypass Engines
20. Auxiliary Power Units Auxiliary Power	Purposes and Features of Turbine Engine  Units

## LAB PROJECT SEGMENTS

Subject	Title
1. Turbine Engines	Overhaul a Turbine Engine
2. Turbine Engines Repair Turbine Engines and	Inspect, Check, Service and
	Turbine Engine Installations
3. Turbine Engines Remove Turbine Engines	Install, Troubleshoot and
4. Unducted Fans Fan Systems and	Inspect and Troubleshoot Unducted
	Components
5. Auxiliary Power Units Turbine-Driven	Inspect, Check, Service and Troubleshoot
	Auxiliary Power Units

### Instructional Methods:

Lectures, video presentation, powerpoint presentation, handouts and class discussion.

FAA required lab projects to be completed using aircraft manuals and procedure sheets.

### METHOD OF EVALUATION

Standardised Tests, Observation Record of Student Performances, Quizzes, Problem-Solving Exercises, Skills Demonstration, Class Participation, Final Exam.

### GRADE PROCEDURE

100-90=A

89-80=B

79-70=C

69-60=D

59 AND BELOW = FAIL

A GRADE OF "C" OR BETTER IS REQUIRED FOR FAA CREDIT.

A GRADE OF "D" OR BETTER GETS YOU COLLEGE CREDIT.

### **ATTENDANCE POLICY**

ROLL WILL BE TAKEN

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 REGULATIONS (14 PART 147) RELATED TO ATTENDANCE A STUDENT CAN NOT MISS MORE THAN **THREE (3) DAYS** OUT OF LECTURE OR LAB. ANY TIME BEYOND, WERE THE TOTAL ATTENDANCE ADDS UP TO MORE THAN THREE DAYS, WILL HAVE TO BE MADE UP. ANY TIME BEYOND **FIVE (5) DAYS** THE INSTRUCTOR HAS THE RIGHT TO EXCLUDE A STUDENT FROM THE CLASS AT HIS OR HER DISCRETION. THIS LAST ITEM MEETS WEST LOS ANGELES COLLEGE CATALOG ON ATTENDANCE.

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. IF THE INSTRUCTOR HAS AGREED UPON GIVING YOU AN INCOMPLETE (I), IN ORDER FOR MAKE UP, THE STUDENT SHALL READ THE RULE GOVERNING INCOMPLETE GRADES IN THE COLLEGE CATALOG.

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.

### **INCOMPLETE GRADE**

WHEN COURSE REQUIREMENTS BY THE CLASS HAS NOT BEEN MEET THE INSTRUCTOR AT HIS OR HER DISCRETION MAY ISSUE AN INCOMPLETE GRADE AT THE END OF THE CLASS. THE STUDENT UPON FINDING OUT THAT AN INCOMPLETE HAS BEEN ISSUED **SHALL** READ THE COLLAGE CATALOG GOVERNING THE REMOVAL OF AN INCOMPLETE GRADE.

### **WITHDRAWAL FROM CLASS**

IT IS THE STUDENTS RESPONSIBILITY TO KEEP THEIR ENROLLMENT STATUS CURRENT WITH THE ADMISSIONS OFFICE. IF YOU STOP ATTENDING A CLASS YOU MUST FILE A WITHDRAWAL WITH THE ADMISSIONS OFFICE FAILURE TO DO SO WILL RESULT IN AN AƑ@ GRADE IN YOUR RECORDS.

### **CHEATING--ACADEMIC DISHONESTY**

EACH STUDENT IS EXPECTED TO DO HIS/HER OWN WORK. A STUDENT CAUGHT CHEATING WILL RECEIVE A GRADE OF AƑ@ ON THAT ASSIGNMENT, AND REPORTED TO THE DEAN OF STUDENTS WHO MAY WANT TO TAKE FURTHER ACTION. A SECOND OFFENSE WILL RESULT IN DISCIPLINARY ACTION BY THE INSTRUCTOR WHICH CAN INCLUDE FAILURE IN THE COURSE AND/OR DISMISSAL FROM THE COLLEGE.

### **SAFETY RULES**

Eye protection is required by each student and must be worn at all times in lab when working on any project/operating machinery.

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

Shoes 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!!!!!!