### Course Syllabus

**Course Number:** TRPPM-3102  
**OCAS Code:** None  
**Course Length:** 91 Hours  
**Career Cluster:** Transportation, Distribution & Logistics  
**Career Pathway:** Aviation Maintenance Technology  
**Career Major(s):** Powerplant Mechanic  
**Pre-requisite(s):** Turbine engines will be disassembled, inspected, repaired as needed and reassembled with emphasis on technical manual usage.

### Textbooks:


### Course Objectives:

#### A. Lesson: INTRODUCTION TO TURBINE ENGINE OVERHAUL
1. Define terms related to turbine engine overhaul.
2. Discuss turbine engine construction and nomenclature.
3. List types of turbine maintenance and maintenance programs.
4. Identify appropriate fluids used in the various turbine engines.
5. Discuss safety precautions related to servicing turbine fluids.
6. Discuss MSDS related to Powerplant 3.
7. List and describe cleaning procedures for turbine engine components.
8. Discuss the purpose and operation of an oil cooler.
9. Discuss inspection, servicing, and troubleshooting turbine engine pneumatic starting systems. (Level 1) (App. D,II,E,19b)

#### B. Lesson: DISASSEMBLY OF SECTIONS
1. Explain the procedure used to disassemble the accessory section.
2. Discuss disassembly of the compressor section.
3. Use manufacturer's overhaul manual to disassemble the compressor section. (Level 2) (App. D,I,B,5)
4. Describe disassembly procedure for combustor section.
5. Use manufacturer's overhaul manual to disassemble the combustor section. (Level 2) (App. D,I,B,5) (PP-B5,B6,B8)
6. Discuss disassembly of the turbine section.
7. Use manufacturer's overhaul manual to disassemble turbine section. (Level 2) (App. D,I,B,5) (PP-B9,B16,B20)
8. Explain the procedure used to disassemble an exhaust section.
9. Use manufacturer's overhaul manual to disassemble an exhaust section. (Level 2) (App. D,I,B,5)
C. Lesson: INSPECTION AND REPAIR OF PARTS
1. Discuss the inspection of bearings and seals.
2. Visually inspect bearings and seals. (Level 3) (App. D,I,B,5,6)
3. Clean and inspect all section components for wear or defects, and enter defective parts on a materials list. (Level 3) (App. D,I,B,5,6) (PP-B13, C13,C14,Q11)
4. Perform necessary repairs to all section components in accordance with manufacturer's overhaul manuals. (Level 3) (App. D,I,B,5,6)
5. Perform dye penetrant inspection. (Level 3) (App. D,I,B,5,6)
6. Check and inspect lube oil filter element. (Level 3) (App. D,I,B,5,6)
7. Check and inspect a turbine engine oil strainer screen. (Level 3) (App. D,II,D,15,16) (PP-N14)

D. Lesson: REASSEMBLY
1. Use manufacturer's overhaul manuals to reassemble combustor, turbine, and exhaust sections. (Level 2) (App. D,I,B,5) (PP-H18)
2. Use manufacturer's overhaul manuals to reassemble compressor, and accessory sections. (Level 2) (App. D,I,B,5)
3. Perform final assembly of engine -- including exterior lines, components, and attaching hardware. (Level 2) (App. D,I,B,5) (PP- B7,H1,H2,J18,L16)

Teaching Methods:
The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures:
1. Students are graded on theory and shop practice and performance.
2. Each course must be passed with seventy (70%) percent or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, F=0-69%.

Description of Classroom, Laboratories, and Equipment:
Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.

Available Certifications/College Credit
The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Oklahoma State University-Okmulgee or Tulsa Community College. See program counselor for additional information.

College Credit Eligibility: The student must maintain a grade point average of 2.0 or better.