Miami Dade College

AVM 1990 Aviation Maintenance Programs and Inspections

Course Description: This course provides an in-depth study of aircraft inspection programs and maintenance scheduling procedures. Students will learn national and international regulations governing aircraft inspection, maintenance evaluation, and the required procedures to update airline and governmental maintenance technical manuals. (3-hour lecture)

Course Competency	Learning Outcomes
Competency 1: The student will learn the national and international regulatory requirements for maintaining commercial aircraft by:	• Communication • Numbers / Data • Critical thinking • Information Literacy
1. Identifying the national and international regulations applicable to commercial aircraft maintenance. 2. Identifying the regulatory criteria for determining the air worthiness of commercial aircraft. 3. Identifying the aircraft maintenance records which are required to be maintained, including content, format, and archiving requirements. 4. Identifying the regulatory inspection process and its impact on operational procedures for commercial aircraft. 5. Identifying procedures to update airline and governmental maintenance technical manuals.	
Competency 2: The student will learn the principles of establishing an effective and efficient aviation maintenance program by:	• Communication • Numbers / Data • Critical thinking • Information Literacy
1. Identifying aircraft inspection criteria including chronological and cycle based inspections. 2. Identifying aircraft system and component reliability characteristics and their roles in the development of an effective maintenance program. 3. Identifying the advantages of non-destructive inspections and procedures to determine the	

needs of aircraft component maintenance requirements. 4. Identifying the concept of a Comprehensive Maintenance Management Program (CMMP). 5. Identifying the principles of predictive versus reactive approaches to aircraft maintenance intervals.	
Competency 3: The student will learn the principles of establishing an effective maintenance program through identifying appropriate personnel staffing, job functions, and work responsibilities by:	• Communication • Numbers / Data • Critical thinking • Information Literacy
1. Analyzing the workforce required to operate an effective aviation maintenance program. 2. Identifying the personnel requirements and qualifications needed for an effective aviation maintenance program. 3. Determining effective testing protocols for hiring new personnel or advancing personnel in aviation maintenance programs. 4. Identifying comprehensive job descriptions, including initial training and continuing education requirements, including update training sessions for all maintenance personnel. 5. Identifying the concept of the maintenance safety team and the role it plays in effectively highlighting maintenance problems.	
Competency 4: The student will demonstrate knowledge of the financial benefits to an effective aviation maintenance program by:	• Communication • Numbers / Data • Critical thinking • Information Literacy
1. Analyzing the financial impacts of the life cycle duration of aircraft parts and engines components. 2. Identifying the facilities and equipment required to efficiently conduct aviation maintenance programs. 3. Identifying the benefits of programmed maintenance schedules, which minimize the financial impact of aircraft down time.	

4. Determining the cost effectiveness of implementing maintenance training programs and aircraft manufacturer update seminars, to maintain an educated workforce. 5. Determining the content of pre-flight, post-flight, cycles, annual, and progressive inspections and their effectiveness in identifying maintenance problems in aircraft components.	