



# BROWARD COMMUNITY COLLEGE

## COURSE OUTLINE

**LAST REVIEW: 2007-2008**

*(i.e. 2003-2004)*

**NEXT REVIEW: 2012-2013**

*(i.e. 2008-2009)*

**STATUS: A**

*(A, I, D)*

**COURSE TITLE: Aircraft Landing Gear Systems**

**COMMON COURSE NUMBER: AMT 1200**

**CREDIT HOURS: 2**

**CONTACT HOUR BREAKDOWN**

*(per 16 week term)*

**CLOCK HOURS: 85**

*(Voc. Course ONLY)*

**Lecture: 35**

**Lab: 50**

**Clinic:**

**Other:**

**PREREQUISITE(S): None**

**COREQUISITE(S): None**

**PRE/COREQUISITE(S): None**

**COURSE DESCRIPTION** *(750 characters, maximum)*: The student will receive training covering the proper methods of inspection, servicing, and repair of landing gear retraction systems, shock struts, brakes, wheels, tires and steering systems. Rigging of various types of retractable landing gear systems will be covered in detail in the classroom and shop situations.

General Education Requirements – Associate of Arts Degree (AA), meets Area(s): Area

General Education Requirements – Associate in Science Degree (AS), meets Area(s): Area

General Education Requirements – Associate in Applied Science Degree (AAS), meets Area(s): Area

### UNIT TITLES

1. Landing Gear, Retraction Systems, Shock Struts, Brakes, Wheels, Tires and Steering Systems

### ASSESSMENT:

Please provide a brief description *(250 characters maximum)* that details how students will be assessed on the course outcomes.

1. **Quizzes, Test, and/or Final Exam (cumulative/comprehensive);**
2. **Selected faculty may assess homework, projects, class participation/attendance, and/or extra credit projects.**  
Upon successful completion of this course, the students should be able to inspect, service and repair landing gear retraction systems, shock struts, brakes, wheels, tires and steering systems.



# BROWARD COMMUNITY COLLEGE COURSE OUTLINE

Common Course Number: AMT 1200

## UNITS

### **Unit 1 Landing Gear, Retraction Systems, Shock Struts, Brakes, Wheels, Tires and Steering Systems**

#### **General Outcome:**

- 1.0 The student shall:** Upon successful completion of this unit, the students should be able to:

#### **Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 1.1 Determine aircraft tire inflation pressures.
- 1.2 Explain the factors affecting the retreading of aircraft tires.
- 1.3 Adjust landing gear toe-in.
- 1.4 Install and remove aircraft wheel and brake assemblies.
- 1.5 Install tubes and tires.
- 1.6 Protect aircraft tires from hydraulic fluids.
- 1.7 Service brake deboosters.
- 1.8 Service landing gear shock struts.
- 1.9 Describe the effects of increasing temperature of "parked" brakes.
- 1.10 Determine the cause of an oleo strut bottoming during taxi operations.
- 1.11 Describe the pressure source for actuating power brakes.
- 1.12 Select and install air valves in oleo shock struts.
- 1.13 Observe safety precautions when demounting tire and wheel assemblies.



# BROWARD COMMUNITY COLLEGE

## COURSE OUTLINE

### Common Course Number: AMT 1200

- 1.14 Determine if a brake system requires bleeding; perform brake system bleeding.
- 1.15 Inspect and adjust multiple-disc brakes.
- 1.16 Install new linings in hydraulically operated single-disc brakes.
- 1.17 Determine the cause of spongy brake action.
- 1.18 Inspect and service aircraft tires and tubes.
- 1.19 Determine the reason for "dragging" brakes.
- 1.20 Describe the method of equalizing braking pressure on both sides of the rotating disc of a single-disc brake.
- 1.21 Operate and check retractable landing gear.
- 1.22 Determine the cause of fading brakes.
- 1.23 Replace actuating cylinders.
- 1.24 Install brake blocks in an expander-tube brake assembly.
- 1.25 Inspect brake drums.
- 1.26 Explain the purpose and function of metering pins in oleo shock struts.
- 1.27 Determine the cause of excessive brake pedal travel.
- 1.28 Explain the operating principles of oleo shock struts during landing.
- 1.29 Describe the storage requirements for aircraft tires and tubes.
- 1.30 Describe the effect of a broken return spring in a brake master cylinder.
- 1.31 Determine the cause of grabbing brakes.
- 1.32 Explain the purpose and operation of a deboosters in a hydraulic power brake system.



# BROWARD COMMUNITY COLLEGE COURSE OUTLINE

## Common Course Number: AMT 1200

- 1.33 Detect internal leakage in a brake master cylinder.
- 1.34 Describe the operating principles of servo, expander-tube, multiple-disc, and a single-disc aircraft brakes.
- 1.35 Explain the purpose and operating principles of brake master cylinders.