



BROWARD COMMUNITY COLLEGE COURSE OUTLINE

LAST REVIEW: 2008-2009

(i.e. 2003-2004)

NEXT REVIEW: 2013-2014

(i.e. 2008-2009)

STATUS: A

(A, I, D)

COURSE TITLE: Basic Physics

COMMON COURSE NUMBER: AMT 0090

CREDIT HOURS: 1

CONTACT HOUR BREAKDOWN

(per 16 week term)

CLOCK HOURS: 26.25

(Voc. Course ONLY)

Lecture: 17

Lab: 9.25

Clinic:

Other:

PREREQUISITE(S): None

COREQUISITE(S): None

PRE/COREQUISITE(S): None

COURSE DESCRIPTION *(750 characters, maximum):* Provides an understanding of energy and matter and how their relationships apply to aircraft maintenance.

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. Principles of Simple Machines, Sound, Fluid, and Heat Dynamics



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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 relate physical science principles to aircraft maintenance.

**** Complete the following only if course is seeking general education status ****

GENERAL EDUCATION Competencies and Skills*:

Please highlight in green font all Competencies/Skills from the list below that apply to this course. In the box to the right of the Competency/Skill, enter all specific learning outcome numbers (i.e. 1.1, 2.7, 5.12) that apply.

1. Read with critical comprehension	
2. Speak and listen effectively	
3. Write clearly and coherently	
4. Think creatively, logically, critically, and reflectively (analyze, synthesize, apply, and evaluate)	
5. Demonstrate and apply literacy in its various forms: <i>(highlight in green ALL that apply)</i> (1. technological, 2. informational, 3. mathematical, 4. scientific, 5. cultural, 6. historical, 7. aesthetic and/or 8. environmental)	
6. Apply problem solving techniques to real-world experiences	
7. Apply methods of scientific inquiry	
8. Demonstrate an understanding of the physical and biological environment and how it is impacted by human beings	
9. Demonstrate an understanding of and appreciation for human diversities and commonalities	
10. Collaborate with others to achieve common goals.	
11. Research, synthesize and produce original work	
12. Practice ethical behavior	
13. Demonstrate self-direction and self motivation	
14. Assume responsibility for and understand the impact of personal behaviors on self and society	
15. Contribute to the welfare of the community	

** General Education Competencies and Skills endorsed by '05-'06 General Education Task Force*



BROWARD COMMUNITY COLLEGE

COURSE OUTLINE

Common Course Number: AMT 0090

UNITS

Unit 1 Principles of Simple Machines, Sound, Fluid, and Heat Dynamics

General Outcome:

- 1.0 The student shall:** The students should be able to use the principles of simple machines, sound, fluid, and heat dynamics.

Specific Measurable Learning Outcomes:

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

- 1.1 Explain the relationship between temperature and heat.
- 1.2 Discuss the methods of heat transfer.
- 1.3 Describe the forces acting upon a body in circular motion.
- 1.4 Discuss the relationship between the pressure and the rate-of-flow of a liquid through an orifice.
- 1.5 Explain the relationship between the pressure, volume, and temperature of an air mass.
- 1.6 Explain the relationship of work, force, and power.
- 1.7 Discuss the effect of air density on engine power output.
- 1.8 Demonstrate the relationship between air velocity and pressure on the upper surface of an airfoil.
- 1.9 Discuss the effect of atmospheric temperature and humidity on airfoil lift.
- 1.10 Explain the principles of transmission of power in a hydraulic system.
- 1.11 Explain the relationship of pressure, area, and force.