



# BROWARD COMMUNITY COLLEGE COURSE OUTLINE

**LAST REVIEW: 2008-2009** **NEXT REVIEW: 2013-2014**

*(i.e. 2003-2004)*

*(i.e. 2008-2009)*

**STATUS: A**

*(A, I, D)*

**COURSE TITLE: Applied Mathematics**

**COMMON COURSE NUMBER: AMT 0070**

**CREDIT HOURS: 1**

**CONTACT HOUR BREAKDOWN**

*(per 16 week term)*

**CLOCK HOURS: 21**

**Lecture: 14**

**Lab: 7**

*(Voc. Course ONLY)*

**Clinic:**

**Other:**

**PREREQUISITE(S): None**

**COREQUISITE(S): None**

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

**COURSE DESCRIPTION** *(750 characters, maximum):* Reviews the principles of mathematical functions and studies their application to aircraft and powerplant maintenance operations.

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. Roots and Powers
2. Areas and Volumes of Various Geometrical Shapes
3. Ratio, Proportion, and Percentage Problems
4. Algebraic Operations Involving Addition, Subtraction, Multiplication, and Divisions of Positive and Negative Numbers



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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 apply the principles of mathematical functions.

*\*\*\* 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: (highlight in green ALL that apply) ( 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



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Common Course Number: AMT 0070

## UNITS

### Unit 1 Roots and Power

#### General Outcome:

- 1.0 The student shall:** The students should be able to extract roots and raise numbers to a given power.

#### Specific Measurable Learning Outcomes:

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

- 1.1** Explain the method of determining the square or cube of a number.
- 1.2** Discuss the procedure for determining square root.



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## Unit 2 Areas and Volumes of Various Geometrical Shapes

### General Outcome:

- 2.0 **The student shall:** The students should be able to determine areas and volumes of various geometrical shapes.

### Specific Measurable Learning Outcomes:

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

- 2.1 Calculate the area of rectangles, squares, triangles, circles and trapezoids.
- 2.2 Determine the volume of rectangles, cubes, and cylinders.
- 2.3 Compute the surface area of an airfoil.
- 2.4 Determine cylinder displacement of a reciprocating engine.



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## Unit 3 Ratio, Proportion, and Percentage Problems

### General Outcome:

**3.0 The student shall:** The students should be able to solve ratio, proportion, and percentage problems.

### Specific Measurable Learning Outcomes:

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

- 3.1 Determine the ration of two numbers.
- 3.2 Find what percent one number is of another.
- 3.3 Determine the rate percent of a given number.
- 3.4 Calculate the compression ration of an engine.
- 3.5 Convert decimal numbers to their fractional equivalent.



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## COURSE OUTLINE

Common Course Number: AMT 0070

### Unit 4 Algebraic Operations Involving Addition, Subtraction, Multiplication, and Division of Positive and Negative Numbers.

#### General Outcome:

- 4.0 The student shall:** The students should be able to perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers.

#### Specific Measurable Learning Outcomes:

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

- 4.1 Locate the main-wheel weighing point with reference to the datum.
- 4.2 Determine the distance between the tail or nose gear and the main-wheel weight point.
- 4.3 Calculate the c.g. relative to the datum.
- 4.4 Explain the effects of adding or removing equipment on the empty weight of the aircraft.