



# BROWARD COMMUNITY COLLEGE COURSE OUTLINE

**LAST REVIEW: 2008-2009**  
*2007-2008*

**NEXT REVIEW: 2013-2014**  
*20012-2013*

**STATUS: A**  
*A*

**COURSE TITLE:** Aviation Safety

**COMMON COURSE NUMBER:** ASC 2870

**CREDIT HOURS:** 3

**CONTACT HOUR BREAKDOWN**

*(per 16 week term)*

**CLOCK HOURS:**

Lecture: 48      Lab:

Clinic:                      Other:

**PREREQUISITE(S):** ATT 1100 and ASC 1100 or private pilot certificate, or instructor’s permission.

**COREQUISITE(S):** none

**PRE/COREQUISITE(S):**

**COURSE DESCRIPTION :**

The primary goal of this course is to provide aspiring aviation professionals with a comprehensive understanding and enhanced awareness of various aspects of aviation safety. Class participation in analyzing the probable cause of selected aviation accidents, analysis of case studies and research projects will be featured. Federal agencies which regulate aviation, with emphasis on those concerned with safety, will be studied. Information on how flight affects the human body and actions to minimize adverse effects will be studied.

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. Accident Causes and Prevention
2. Regulation of Aviation Safety
3. Flight Physiology
4. Psychology of Flight
5. Crew Resource Management



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## **EVALUATION:**

Student will be assessed through quizzing, testing and/or homework and presentations regarding course learning objectives and outcomes



**Common Course Number: ASC 2870**

## **UNITS**

### **Unit 1: Accident Causes and Prevention**

#### **General Outcome:**

- 1.0 The student shall** be able to recognize the factors that ensure the safe outcome of any flight

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

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

- 1.1** Recognize the trends in aviation accident statistics.
- 1.2** Describe the major causes and related factors involving general aviation accidents and fatalities.
- 1.3** Define human factors.
- 1.4** Discuss pilot error.
- 1.5** Explain factors to be aware of with takeoffs and landing.
- 1.6** Discuss techniques that improve students' ability to learn effectively.
- 1.7** Explain why flying is primarily a mental pursuit, not a physical one.
- 1.8** List techniques for improving memory
- 1.9** Research and write a paper / presentation on an aspect of human factors or aviation safety.



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**Unit 2: Regulations of Aviation Safety**

**General Outcome:**

- 2.0 The student shall** be able to discuss the legislation and organizations that contribute to aviation safety

**Specific Measurable Learning Outcomes:**

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

- 2.1** Describe federal legislation that regulates safety in aviation.
- 2.2** Trace the events that led to the development of the Federal Aviation Administration and caused changes in regulations and requirements.
- 2.3** Discuss and contrast the FAA promotion of aviation safety and its enforcement policies.
- 2.4** Define the purpose of the National Transportation Safety Board and describe how it accomplishes its mission.
- 2.5** Discuss the benefits of the NASA Aviation Safety Reporting System.
- 2.6** Discuss the international regulation of aviation.
- 2.7** List private organizations that promote aviation safety and describe their activities.
- 2.8** Identify the steps involved in a major accident investigation.



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**Unit 3: Flight Physiology**

**General Outcome:**

- 3.0** The student shall be able to recognize how the body influences their ability to function under the various conditions encountered in flight.

**Specific Measurable Learning Outcomes:**

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

- 3.1** Describe the FAA medical certification process.
- 3.2** Explain the functions and limitations of the eyes.
- 3.3** Recognize illusions that may be encountered in-flight and how to counteract them.
- 3.4** Discuss that causes and prevention of mid-air collisions.
- 3.5** Describe the functions and limitations of the ears.
- 3.6** Define hypoxia and describe how it develops and how it can be prevented.
- 3.7** Discuss aspects of the flight environment, such as noise, temperature, and pressure changes, that impact human performance.
- 3.8** Describe and contrast acute and chronic fatigue.
- 3.9** Discuss the benefits of proper eating habits and exercise.
- 3.10** Recognize the effects of substances that are ingested into the body.
- 3.11** Compare and contrast the effects of depressant and stimulant drugs on the central nervous system.
- 3.12** Discuss the special considerations of night flight.
- 3.13** Recognize the dangers of carbon monoxide poisoning.
- 3.14** Define hyperventilation and describe its systems and cures.



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**Unit 4: Psychology of Flight**

**General Outcome:**

**4.0 The student shall** be able to recognize the factors that ensure the safe outcome of any flight

**Specific Measurable Learning Outcomes:**

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

- 4.1** Name and describe two types of stress.
- 4.2** List and describe the three stages of stress.
- 4.3** Recognize the causes, symptoms and remedies of emotional stress.
- 4.4** Discuss how personalities and attitudes toward risk taking affect decision making.
- 4.5** Contrast perceptual and cognitive judgment.
- 4.6** Discuss the positive and negative aspects of learning from experience.
- 4.7** Recognize psychological traps that have a detrimental effect on judgment.
- 4.8** Participate in assessment of hazardous attitudes.
- 4.9** Make a presentation on an aspect of human factors or aviation safety.



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**Unit 5: Crew Resource Management (CRM)**

**General Outcome:**

**5.0 The student shall** be able to effectively make use of all available resources to achieve safe and efficient flight operations

**Specific Measurable Learning Outcomes:**

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

- 5.1** Determine the ultimate objective of CRM training.
- 5.2** Describe the important factors of good crew communication.
- 5.3** Discuss the role of leadership in aeronautical decision making.
- 5.4** Discuss how advances in technology will affect the role and performance of flight crews.
- 5.5** Recognize the resources available to general aviation pilots.