

**BREVARD COMMUNITY COLLEGE
AEROSPACE TECHNOLOGY PROGRAM**

AFR 1100 Introduction to Aerospace

- **CLASS TIME:** Mondays 1800 - 2045
- **CLASSROOM:** Cocoa Campus Bldg 14 Room 192
- **INSTRUCTOR:**
- **CONTACT DATA:**

TEXTS: Understanding Space – An Introduction to the Aerospace Workplace, 3rd Edition, Sellers, Jerry Jon.
McGraw hill, Inc. ISBN 0-07-340775-5
“The Complete Idiot’s Guide to Understanding Ethics” David Ingram and Jennifer Parks

**COURSE
DESCRIPTION:**

This course covers the history and structure of the aerospace industry; aerospace terminology and acronyms; basics of rocketry and space flight; space vehicle processing activities; fundamentals of launch and landing strategies; organizational relationships for U.S. operators; fundamentals of technical troubleshooting; safety, quality, and workplace rules and regulations; good housekeeping practices; site visits to key operational work areas; and examples of lessons learned and professional considerations for technician careers in aerospace.
Ethics in the Workplace will be covered

COURSE OBJECTIVES

AND COMPENTENCIES: At the end of this class the student will be able to:

1. Understand common space terms and acronyms, including their appropriate uses.
2. Demonstrate knowledge of space history, theories of rocketry and orbital mechanics; and the impacts of living and working in space as they relate to aerospace workplace practices.
3. Demonstrate knowledge of proper clean-room procedures (including donning garments and observation of standard practices) and proper FOD procedures.
4. Understand and observe work area rules and safety regulations at specific job sites.
5. Demonstrate knowledge of key concepts and practices of quality control.
6. Identify, select and apply approaches to basic troubleshooting and repair.
7. Exhibit an awareness of weather impacts and hazards of aerospace processing operations.
8. Understand the standards of ethics for technician careers in aerospace.

**GRADING
PROCEDURE:**

Class Participation	10%
Presentation	20%
Quizzes	20%
Midterm Examination	20%
Final Examination	25%

Grades:

90 to 100	A
80 to 89	B
70 to 79	C
60 to 69	D
Below 60	F

IMPORTANT INFORMATION:

This class will have a dress code for any tours or guest speakers

Badging is required for any tours

You are responsible for all notes and materials presented in class. If you miss a class, make sure that you have the class notes and any assignments or handouts.

Class material will be posted on Angel; you are responsible for checking Angel regularly to get class announcements and notes AND GRADES.

Attendance will be closely monitored. Irregular attendance would make it impossible to keep up with the material.

Make-up exams and incompletes will not be given. Contact instructor in advance for assistance, if you absolutely must miss a test.

Assignments turned in late will not be graded

Post exam reviews are mandatory and will start at the beginning of the next class session. It is very important to review the examination material for any mistakes that you might have made. Please notify the instructor if you will not be able to attend the exam review.

GRADING, ATTENDANCE POLICY AND WITHDRAWL POLICY WILL BE IN ACCORDANCE WITH THE STUDENT HANDBOOK AND COLLEGE CATALOG.

Assignments

Text chapter Readings

Chapters 1, 2, 3, 4, 9, 10, 11, 15, 16

Term Project

A term project is required as part of this course. The project will consist of a presentation regarding a topic of interest in the Aerospace Industry

Examples:

1. New launch vehicle or spacecraft
2. Person of note who has changed space flight industry (not a biography, but what he/she did that created change)
3. Particular period of time (i.e., Kennedy or Regan Presidential years) and what happened to change the industry – (e.g., Challenger accident lead up to what changes in public policies)
4. Your choice – approved in advance by the instructor

Schedule

1. Topic selection – in writing by Week 4 (Include topic and why you selected the topic)
2. Abstract – ½ to ¾ page (single spaced, typed) Week 10
3. Presentation ready by Week 14 (beginning of class)
 - a. PowerPoint presentation (12 minutes + Q&A)
 - b. Written summary 1½ to 2 pages (single spaced, typed)

Weekly news article

1. Weekly news article relating to future space flight or to an issue of ethics
2. Tape article to 8 ½ by 11 paper with your name for turn in.
3. At least once during semester you will be asked to summarize and explain your article

Input from Guest Speakers and tours

1. Following each guest speaker or tour a short paper highlighting (and explaining) a least five things you learned or observed will be due the week after the tour or guest speaker

**AFR 1100: INTRODUCTION TO THE AEROSPACE WORKPLACE
CLASS SCHEDULE
Spring 2009**

(Note: Tentative plan, subject to availability of activities and speakers)

<u>CLASS</u>	<u>DATE</u>	<u>TOPIC</u>	<u>ACTIVITY</u>
1	1/11/2010	Introduction and Overview Course Plan/Program Structure/ Space in Our Lives	Chapter 1
	1/18/2010	<i>MLK Birthday</i>	
2	1/25/2010	History of Space and The Space Environment, Principles of Rocketry, Launch Vehicles and Spacecraft, Processing Flows	Chapter 2 & 3
3	2/1/2010	Space Operations and Using Space	Chapters 14, 15 & 16
4	2/8/2010	Space Orbits and Space System Engineering	Chapters 4-11
5	2/15/2010	Work Area Tasks and Rules Personnel Protective Equipment Clean rooms Etc	
6	2/22/2010	Weather support for the space program, Lighting safety	Guest Speaker – William Roeder
7	3/1/2010	Space Program and the Work Place	Guest Speakers - Jim Kennedy and Al Koller
8	3/8/2010	Mid Term Exam	
9	3/15/2010	Work Area Rules Continued Computer Tutorial (if required)	MS Office Brief
10	3/22/2010	Ethics in the Workplace, Teamwork	Guest Speaker – Al Koller
	3/29/2010	<i>Spring Break</i>	
11	4/5/2010	Logistics	Guest Speaker – Lamar Russell
12	4/12/2010	Quality Control Systems	
13	4/19/2010	System Thinking, Problem Solving, Trouble Shooting	
14	4/26/2010	Student Presentations	
15	5/3/2010	Final Exam	