

**Note:**

**Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should not be used to purchase course materials.**

## ***COURSE SYLLABUS***

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### **AVIA 400**

#### **AVIATION HUMAN FACTORS**

#### **COURSE DESCRIPTION**

This course will cover the scope of regulations concerning aviation and how they impact the pilot. The course will provide the basic understanding of the human factors concepts including psychological and physiological limitations of humans operating in complex environments. In addition, the course will include an in-depth study of Crew Resource Management, which involves an understanding of the flight deck environment and the proper utilization of resources available to the aviator.

#### **RATIONALE**

This course will prepare the student to understand and apply the governing FAA regulations as they relate to professional aviation. It will also provide the students with a detailed understanding of the influences of human factors in error causation and accident prevention. Students will be exposed to the specific human factor areas of error, physiology, and psychology which will enable the student to analyze and provide corrective/preventative inputs to organizational and operational environments in aviation. Additionally, the student will learn to apply principles of human interaction skills to effectively work as a team and create a synergy in the multi-person cockpit that cannot be attained in a single-person cockpit.

#### **I. PREREQUISITE**

For information regarding prerequisites for this course, please refer to the [Academic Course Catalog](#).

#### **II. REQUIRED RESOURCE PURCHASE**

Click on the following link to view the required resource(s) for the term in which you are registered: <http://bookstore.mbsdirect.net/liberty.htm>

#### **III. ADDITIONAL MATERIALS FOR LEARNING**

- A. Computer with basic audio/video output equipment
- B. Internet access (broadband recommended)
- C. Blackboard [recommended browsers](#)
- D. Microsoft Office

**IV. MEASURABLE LEARNING OUTCOMES**

Upon successful completion of this course, the student will be able to:

- A. Describe the role of the FAA, NTSB, and ICAO in aviation.
- B. Apply the Code of Federal Regulations as it applies to aviation-related situations.
- C. Analyze the evolution of the aircraft cockpit, the new challenges regarding information processing, and ways to balance workload requirement and situation awareness to ensure safety of flight in this new environment.
- D. Identify strengths and weaknesses in flight training programs and simulation activities.
- E. Identify human error in real-world operations and ways to avert or handle those errors.
- F. Evaluate the role of fatigue, body rhythms, sleep, and fitness in aviation.
- G. Identify strengths and weaknesses in aircraft design from displays to automation to crew station design.
- H. Identify strengths and weaknesses of new technology (e.g., unmanned aerial vehicles).
- I. Analyze the general evolution of human factor issues in the cockpit as they pertain to the airline industry, general aviation, air traffic management and the maintenance arena.
- J. Discuss the concepts of crew resource management and team dynamics and the roles they play in this process in the cockpit.

**V. COURSE REQUIREMENTS AND ASSIGNMENTS**

- A. Textbook readings
- B. Course Requirements Checklist  
After reading the Syllabus and [Student Expectations](#), the student will complete the related checklist found in Module/Week 1.
- C. Discussion Board Forums (7)  
There are 7 Discussion Board Forums to be completed in this course. The student is required to post 1 thread of at least 350 words and 2 replies of at least 150 words to 2 classmates' threads.
- D. Critical Analysis Paper  
The student will be assigned an NTSB aircraft accident investigation report by the instructor at the beginning of the term. Then the student will provide a 2–3-page critical analysis of the NTSB accident report consisting of a title page, body, and reference page in current APA format. The Title and Reference pages do not count toward the total page count. A template is provided for this assignment.

F. Quizzes (7)

The student will complete 7 quizzes in this course. All quizzes will be open-book/open-notes and contain 10 multiple-choice and true/false questions. The allotted time for each quiz is 1 hour.

**VI. COURSE GRADING AND POLICIES**

A. Points

Course Requirements Checklist	10
Discussion Board Forums (7 at 75 pts ea)	525
Critical Analysis Paper	125
Quizzes (7 at 50 pts ea) (Modules 1–6, 8)	350
<b>Total</b>	<b>1010</b>

B. Scale

A = 900–1010 B = 800–899 C = 700–799 D = 600–699 F = 0–599

C. Disability Assistance

Students with a documented disability may contact Liberty University Online’s Office of Disability Academic Support (ODAS) at [LUOODAS@liberty.edu](mailto:LUOODAS@liberty.edu) to make arrangements for academic accommodations. Further information can be found at [www.liberty.edu/disabilitysupport](http://www.liberty.edu/disabilitysupport).

## ***COURSE SCHEDULE***

### **AVIA 400**

Textbook: Salas & Maurino, *Human Factors in Aviation* (2010).

<b>MODULE/ WEEK</b>	<b>READING &amp; STUDY</b>	<b>ASSIGNMENTS</b>	<b>POINTS</b>
<b>1</b>	1 presentation 1 article 3 websites	Course Requirements Checklist	10
		Class Introductions	0
		DB Forum 1	75
		Quiz 1	50
<b>2</b>	Salas & Maurino: chs. 6–8 1 presentation	DB Forum 2	75
		Quiz 2	50
<b>3</b>	Salas & Maurino: chs. 9–10 4 presentations	DB Forum 3	75
		Quiz 3	50
<b>4</b>	Salas & Maurino: chs. 11, 13 1 presentation	DB Forum 4	75
		Quiz 4	50
<b>5</b>	Salas & Maurino: chs. 14–15 1 presentation	DB Forum 5	75
		Quiz 5	50
<b>6</b>	Salas & Maurino: chs. 16–18 1 presentation	DB Forum 6	75
		Quiz 6	50
<b>7</b>	Salas & Maurino: chs. 19–21 1 presentation	Critical Analysis Paper	125
<b>8</b>	1 presentation 3 articles	DB Forum 7	75
		Quiz 7	50
<b>TOTAL</b>			<b>1010</b>

DB = Discussion Board

**NOTE:** Each course week (except Module/Week 1) begins on Tuesday morning at 12:00 a.m. (ET) and ends on Monday night at 11:59 p.m. (ET). The final week ends at 11:59 p.m. (ET) on Friday.