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
AVIA 400
AVIATION HUMAN FACTORS

COURSE DESCRIPTION
This course is divided into three parts. The first will cover the scope of all regulations concerning
aviation and how they impact the pilot. The second part will provide the basic understanding of
the human factors concepts including psychological and physiological limitations of humans
operating in complex environments. The third part will provide an in-depth study of Crew
Resource Management, which involves having a complete understanding of the flight deck
environment and the proper utilization of all resources available to an 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. Microsoft Word and PowerPoint
   (Microsoft Office is available at a special discount to Liberty University students.)
D. Adobe Reader (latest version)

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.

E. 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

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Course Requirements Checklist</td>
<td>10</td>
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<tr>
<td>Discussion Board Forums (7 at 75 pts ea)</td>
<td>525</td>
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<tr>
<td>Critical Analysis Paper</td>
<td>125</td>
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<tr>
<td>Quizzes (7 at 50 pts ea) (Modules 1–6, 8)</td>
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<td><strong>Total</strong></td>
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B. Scale
A = 900–1010   B = 800–899   C = 700–799   D = 600–699   F = 0–599

C. Late Assignment Policy
If the student is unable to complete an assignment on time, then he or she must contact the instructor immediately by email.

Assignments that are submitted after the due date without prior approval from the instructor will receive the following deductions:

1. Late assignments submitted within one week of the due date will receive a 10% deduction.

2. Assignments submitted more than one week late will receive a 20% deduction.

3. Assignments submitted two weeks late or after the final date of the class will not be accepted.

4. Late Discussion Board threads or replies will not be accepted.

Special circumstances (e.g. death in the family, personal health issues) will be reviewed by the instructor on a case-by-case basis.

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

**AVIA 400**


<table>
<thead>
<tr>
<th>Module/Week</th>
<th>Reading &amp; Study</th>
<th>Assignments</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<td>Course Requirements Checklist Class Introductions DB Forum 1 Quiz 1</td>
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<tr>
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<td>Salas &amp; Maurino: chs. 6–8 1 presentation</td>
<td>DB Forum 2 Quiz 2</td>
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<tr>
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<td>DB Forum 3 Quiz 3</td>
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<td>DB Forum 4 Quiz 4</td>
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<td>DB Forum 5 Quiz 5</td>
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<td>DB Forum 6 Quiz 6</td>
<td>75 50</td>
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<tr>
<td>7</td>
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<td>Critical Analysis Paper</td>
<td>125</td>
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<tr>
<td>8</td>
<td>1 presentation 3 articles</td>
<td>DB Forum 7 Quiz 7</td>
<td>75 50</td>
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<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1010</strong></td>
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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.