

BERGEN COMMUNITY COLLEGE
DIVISION OF MATHEMATICS, SCIENCE AND TECHNOLOGY
DEPARTMENT OF INDUSTRIAL & DESIGN TECHNOLOGY
Course Syllabus
AVT 240, Introduction to Aviation Safety

Basic Information About Course and Instructor

Semester and Year: Fall 2013
Course and Section Number: AVT-240-001
Meeting Times and Locations: Technology Building, TBA
Instructor: TBA
Office Location: Room A-325
Phone: 201-447-7975
Departmental Secretary: Sandra Haan
Office Hours: 8am-4pm weekdays
Email Address:

Course Description

 15 lectures, 0 labs, 3 credits

Prerequisites and co-requisites, if any: None

- Diversity Course – Aviation elective

Aviation Safety is a study of the new developments in Human Factors, Accident Investigation and Risk Management as applied to the aviation industry. Topics considered include a brief history of the evolution of Accident Investigation, the impact of automation systems, and advances in Human Factors theory. Safety Management Systems concept application, and practical Aircraft Accident Investigation will be stressed.

Student Learning Objectives: As a result of meeting the requirements in this course, students will be able to

1. Demonstrate the fundamental concepts of Safety Management Systems and how they are utilized in current real-world applications.
2. Be able to employ the safety concepts to validate various procedures in Aviation Systems.
3. Demonstrate the fundamental principles of Safety Systems design and how they are applied.
4. Demonstrate the fundamental structure of Safety Management Systems and be able to apply the knowledge and computational tools to solve operational problems.
5. Be able to perform fundamental analysis of performance of safety systems using current tools.

Each of the above listed student learning objectives will be assessed by:

1. Written assignments and/or quizzes
2. Written examinations
3. Classroom exercises or other assessments as determined.

Course Content

Aviation Safety will provide a broad brush coverage of historical, current and future Aviation Safety Systems and the impact of Accident Investigation methods and Human Factors results.

The course will be delivered in a Technology building classroom. Power Point presentations with lecture, internet source material and group exercises with computational software tools will be utilized.

Special Features of the Course

Upon Completion of this course the student will have the ability to understand and apply practical aspects of Aviation Safety systems. Course will be taught through a combination of power point presentations and internet source materials and research texts and developed software tools.

Course Texts and/or Other Study Materials

Deep Survival

By Laurence Gonzales

Published by W.W. Norton & Company, Inc.

ISBN 978-0-393-32615-4

\$10.17

Deep survival is a great book! Laurence Gonzales uses extreme sports as a venue to explain human performance. He is an aviator and a journalist not a psychologist, so his book is readable. He communicates with stories. Students tend to remember the story, or be reminded of the story, and then bring back the concepts he intended to communicate. The book is full of exciting examples of various human performance issues. Students will end up reading the entire book if you assign excerpts. It is well priced and available at most any local book store.

The Human Contribution

By James Reason

Published by Ashgate Publishing Company

ISBN-10: 9780754674023

\$32.00

The Human Contribution is a summing up of James Reason's work. He admits to it being mostly his opinion. Influenced by Human Factors experts like Sydney Dekker of Lund University and Ohio State University.

The Human Contribution displays the heroic intervention. We so focus on the human as a hazard that we forget the human normally intervenes to keep the system running. So the bulk of safety information is what works as opposed to what doesn't work. He has added another layer to the Swiss Cheese, its Cheddar. No holes. It represents the skill of operational people. However a mouse is nibbling the cheddar. The mouse represents unrecovered minor errors that erode the last line of defense.

Online at:

<http://www.lusa.lu.se/research/sidney-dekker-homepage>

http://www.faa.gov/data_research/safety/

<http://www.icao.int/icao/en/anb/aig/>

<http://www.icao.int/anb/humanfactors/>

Research, Writing, and/or Examination Requirement(s)

Course research will be at the discretion of the student with instructor oversight./writing/presentation/examination requirements.

Student group work on classroom exercises is vital to course success. Participation is included in final course grading.

Grading Policy

Students should refer to the instructor's grading policy which will be distributed on the first meeting of class. Attendance and tardiness policies Will be determined by the instructor for each section of the course. These will be established in writing on the individual course outlines. Attendance will be kept by the instructor for administrative and counseling purposes.

Final examination policy is an open text policy. All course materials maybe used. Ingenuity of application will increase the student's grade.

Class exercise participation constitutes one quarter of the final grade.

Late work and make up examinations will be handled on a case by case basis.

BCC Attendance Policy

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

A daily list of class cancellations is posted on the college's web page: www.bergen.edu. If students find the class has been cancelled without being posted, they should report it to the Divisional Dean's Office (A-325) or to the Evening Office (L-113).

Other College, Divisional, and/or Departmental Policy Statements

Code of Student Conduct.

Plagiarism and/or academic dishonesty.

American Disabilities Act

Sexual Harassment policy.

Policy on acceptable use of BCC technology.

Policy on the purpose and value of faculty office hours.

May be found in the Bergen Community College catalogue or online at:
http://www.bergen.edu/Documents/Catalog/Catalog-Policies_11-12.pdf

Student and Faculty Support Services

Learning Assistance Center	Room: L-125	447-7908
Sidney Silverman Library	Room: L-226	447-7436
Office of Specialized Services	Room: L-115	612-5270
BCC Web Advisor is available at: https://go.bergen.edu/WebAdvisor/		

Include a Course Outline and Calendar

Week	Date(s)		Topic/Activity	Assignments/Events
1	Sep 5	Jan 28	Introduction to the Course	CT 1 OL2,3,4
2	Sep 12	Feb 4	Historical perspective of Aviation Safety, Accident Investigation	CT 2 OL2,3,4
3	Sep 19	Feb 11	The process of simple Risk and Hazard identification	CT1 OL2
4	Sep 26	Feb 18	Safety Mitigation Strategy	CT
5	Oct 3	Feb 25	Exam 1	
6	Oct 10	Mar 4	Return and Review of Exam 1 Safety System development	CT2 OL2
7	Oct 17	Mar 11	Human Factors in Aviation	
8	Oct 24	Mar 18	Mechanical failures from an operational standpoint	CT2
9	Oct 31	Mar 25	Group safety exercise #1	CT2 OL 1
10	Nov 7	Apr 1	Exam 2 Integrated Safety Concepts ASAP programs	OL2
11	Nov14	Apr 8	Return and Review of Exam 2 Human Factors intervention	
12	Nov21	Apr 15	Management roles and Just Culture	CT2 OL1,2,3
13	Dec 5	Apr 22	International Aviation Safety requirements	OL 2 OL 3 OL 4
14	Dec 12	Apr 29	Course review <u>Final Deadline for Late Exercises and Extra Credit Work</u>	
15	Dec 19	May 6	Final Exam	

Note to Students: This Course Outline and Calendar is tentative and subject to change, depending upon the progress of the class.