

Syllabus

last century and how challenging it has been to adapt our psychological and physiological limitations to such dangerous environment. We will do this by looking at aviation accidents from the position of human error.

We then explore the socioeconomic impacts of recent aviation related events such as the post 9/11 air travel fallout, the Katrina recovery and rescue efforts and the Icelandic Volcano. We will also discuss the future of aviation and how it will affect our lives.

Instructor: Hank Scott, Lecturer/Instructor

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Prerequisites: *none*, open to all majors at any level

Textbooks:

1. **Flight the Complete History** By R.G. Grant, DK Publishing (2007). **ISBN-10:** 0756619025

OR Flight: 100 Years of Aviation By R.G Grant DK Publishing (2007) **ISBN-10:** 0756653460

(Pretty much the same book)

1. **Handbook of Aviation Human Factors, 2nd Edition** (Human Factors in Transportation) Wise, Hopkins and Garland (*hardcover 2009*). By R.G. Grant DK Publishing (2007).

books.

Grading Breakdown:

- Section 1 Exam 20%
- Mid-Term Paper (2000 words) 30%, (papers will be submitted in Canvas Dropbox)
- Section 2 Exam 20%
- Group Presentation 30%

Course Website: on Canvas

Required Readings:

- Textbooks listed above for Sections 1 and 2.
- Various articles provided in class and available on the course website will be utilized during Sections 2 and 3.

Lecture Topics:

1. History of Manned Flight

The Invention of Aviation

Early successes and failures

Wright Brothers

The Early Novelty of Aviation, and WWI

The Golden Age: Aviation finds a purpose: mail, combat and commercial transportation.

WWII

Post-war R&D, the Cold War, Airlines and the Jet Age

The Private Aviation phenomenon

Historical review of civilian acceptance of Aviation

1. Flight Safety and Human Error

Human Factors in Complex Systems

Organizational Behavior (and the Reason Model)

The Role of Culture – Power-Distance Culture

The Role of Human Performance Limitations

Group Behavior and Social Interaction in Complex Systems

Crew Resource Management (Stress, Situational Awareness, Information Processing)

Social Impacts of Aviation Accidents

Accident Investigation, recommendations and the Ethics vs. Economics debate

The Role of Training – Learning Theory in Aviation Safety

3.Socio-Economic Impacts of Aviation

Regulation and the role government regulation – does it hinder or hamper growth?

Life without aviation, assess the Post 9-11 aviation freeze, Icelandic volcanic disruptions

Impact of aviation of the environment and the climate

Aviation in Developing Nations

Aviation's role in Humanitarian Aid/ Emergency Relief (case study of Haiti Earthquake, Katrina and the Asian Tsunami)

Future issues in Aviation (congested airspace, NEXGEN, green propulsion)

Attendance:

If the course is over subscribed the waitlist will be filled by the removal of any students who do not attend the first 2 days of class.

Aerospace Engineering Sciences & University Policies

Classroom Behavior

Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the [Links to an external](#)

file for an exemption based on medical, ethical or moral grounds through the MyCUHealth portal.

The CU Boulder campus is currently mask-optional. However, if public health conditions change and masks are again required in classrooms, students who fail to adhere to masking requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policy on classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please follow the steps in the "Accommodation for Disabilities" statement on this syllabus.

If you feel ill and think

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the [Links to an external site.Honor CodeLinks to an external site.](#) Violations of the Honor Code may include, but are not limited to: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution (honor@colorado.edu; 303-492-5550). Students found responsible for violating the [Links to an external site.Honor CodeLinks to an external site.](#) will be assigned resolution outcomes from the Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Additional information