

Syllabus

ASEN 3046 Introduction to Humans in Aviation

Fall 2019
Fri 17:00-19:50

This course investigates manned aviation and how it has impacted our lives.

We begin by reviewing the history of manned aviation in 1783 with the Montgolfier's and proceed through the major historic events that have advanced aircraft developments. We consider how each new historic milestone in aircraft development has impacted society and our acceptance of manned flight.

Students will gain an understanding of just how rapidly aviation has developed over the 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 socio-economic 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)

2. Handbook of Aviation Human Factors, 2nd Edition (Human Factors in Transportation)

Wise, Hopkins and Garland (*hardcover 2009*).

Digital Copy is fine for this book... CU library has digital copies:

<http://dx.doi.org.colorado.idm.oclc.org/10.1201/b10401>

Please note that you may bring laptops, E-readers, tablets or smartphones to the 2 exams to read the electronic versions of the text books.

Grading Breakdown:

- Section 1 Exam 20%
- Mid-Term Paper (2000 words) 30%, (papers will be submitted in D2L Dropbox)
- Section 2 Exam 10%
- Group Presentation 30%

- Attendance, in-class participation, completion of assigned readings, attitude 10%

Course Website: on D2L

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

2. 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 2016

Accommodation For Disabilities

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the [Disability Services website](#). Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition or injury, see [Temporary Medical Conditions](#) under the Students tab on the Disability Services website.

Religious Holidays

It is the responsibility of every instructor to explain clearly her or his procedures about absences due to religious observances in the course syllabus so that all students are fully informed, in writing, near the beginning of each semester's classes. [Campus policy regarding religious observances](#) states that faculty *must* make reasonable accommodations for students and in so doing, be careful not to inhibit or penalize those students who are exercising their rights to religious observance. Faculty should be aware that a given religious holiday may be observed with very different levels of attentiveness by different members of the same religious group and thus may require careful consideration to the particulars of each individual case. For more information on the religious holidays most commonly observed by CU Boulder students consult the [online interfaith calendar](#).

Religious observances syllabus statement:

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, we believe there is no god.....just kidding!!! Just trying to see if you folks even read these statements. For any religious observances that conflict with class just let me know what you need and we will make it happen, we are pretty flexible and will do our best to accommodate your requirements and keep up with the classes

Classroom and On-Campus Behavior

Students and faculty each have responsibility for maintaining an appropriate learning environment. 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. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please

advise me of this preference early in the semester so that I may make appropriate changes to my records. For more information, see the policies on [classroom behavior](#) and the [Student Code of Conduct](#).

Discrimination and Harassment

The University of Colorado Boulder (CU-Boulder) is committed to maintaining a positive learning, working, and living environment. CU-Boulder will not tolerate, both in-class and outside of class, acts of sexual misconduct, discrimination, harassment or related retaliation against or by any employee or student. CU's Sexual Misconduct Policy prohibits sexual assault, sexual exploitation, sexual harassment, intimate partner abuse (dating or domestic violence), stalking or related retaliation. CU-Boulder's Discrimination and Harassment Policy prohibits discrimination, harassment or related retaliation based on race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Individuals who believe they have been subject to misconduct under either policy should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127. Information about the OIEC, the above referenced policies, and the campus resources available to assist individuals regarding sexual misconduct, discrimination, harassment or related retaliation can be found at the [OIEC website](#).

Honor Code

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: 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 the Honor Code (honor@colorado.edu; 303-492-5550). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the [Honor Code Office website](#).

If you cheat you will get an F, that's it, don't cheat.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation Office of Institutional Equity and Compliance (OIEC) syllabus statement:

The University of Colorado Boulder (CU Boulder) is committed to fostering a positive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (including sexual assault, exploitation, harassment, dating or domestic violence, and stalking), discrimination, and harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or cureport@colorado.edu. Information about the OIEC, university policies, [anonymous reporting](#), and the campus resources can be found on the [OIEC website](#). Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

