

Syllabus

ASEN 3046 Introduction to Humans in Aviation

Fall 2017
Mon 17:00-19:50
ECCR 1B40

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

Email: hank.scott@colorado.edu

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 to your professor a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303-492-8671 or by e-mail at dsinfo@colorado.edu. If you have a temporary medical condition or injury, see [Temporary Injuries guidelines](#) under the Quick Links at the [Disability Services website](#) and discuss your needs with your professor.

Religious Holidays

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, you must let the instructors know of any such conflicts within the first two weeks of the semester so that we can work with you to make reasonable arrangements. See [campus policy regarding religious observances](#) for full details.

Classroom and On-Campus Behavior

Students and faculty each have responsibility for maintaining an appropriate learning environment, not only while in class, but *also while working outside of class such as in labs and study areas*. 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 differences of race, color, culture, religion, creed, politics, veteran's status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. Class rosters are provided to the instructor with the student's legal name. We will gladly honor your request to address you by an alternate name or gender pronoun. Please advise us of this preference early in the semester so that we may make appropriate changes to our records. For more information, see the [policies on classroom behavior](#) and [the student code](#).

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 academic integrity policy](#) of the institution. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access, clicker fraud, resubmission, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found responsible of violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code Council as well as academic sanctions from the faculty member. Additional information regarding the academic integrity policy can be found at <http://honorcode.colorado.edu>.

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