The University of Western Ontario
Commercial Aviation Management Program

Management and Organizational Studies 3397b
Pilot Performance and Aviation Safety

Instructor: Dr. Kearns
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Class: Wednesday 1:30-4:30
Class Location: SSC 3107
Office Hours: Wednesday 10-12

COURSE OUTLINE

Optional Texts

Reinhart, R. O. (1996). Basic flight physiology. New York, NY: McGraw Hill.

Stolzer, A. J., Halford, C. D., & Goglia, J. J. (2008). Safety management systems in aviation. Burlington, VT: Ashgate.

Wiegmann, D. A., & Shappel, S. A. (2003). A human error approach to aviation accident analysis: The human factors analysis and classification system. Burlington, VT: Ashgate.

Williams, C., & Waltrip, S. (2004). Aircrew security: A practical guide. Burlington, VT: Ashgate.

Course Description

This course will focus on the science of pilot performance, aviation safety (including safety management systems), and the new field of aviation security. Information will be drawn from areas such as human physiology, basic learning theory, accident statistics, security threats, and pilot training. The course surveys the study of human behavior as it relates to the aviator's adaptation to the flight environment. Students will also develop an understanding of the nature and causation of accidents. Students will compose an executive summary describing the accident they believe has had the greatest impact on aviation and lead a discussion on this topic.

This course will also develop a deepened student understanding of the roles and professional dynamics within the aviation industry. This will be established through individual investigations and class discussions of pertinent issues. Throughout the semester students will be required to cement their ideas, which were initiated in class, into a paper describing the topic they believe will be most influential to aviation safety over the next five years.

Evaluation Profile

Class Participation		10%
Accident Review		30%
Executive Summary	15%	
Presentation & Discussion	15%	
Industry Assessment Paper		60%
Paper	45%	
Presentation	15%	

1. **Class Participation:** A crucial element of this course is the sharing of ideas and opinions. Since each of us brings a unique background of experiences, much can be learned from class debate and discussion. There are only 13 sessions in this course, and therefore it is incredibly important to attend class. However, perfect attendance will not guarantee you a good participation grade. With perfect attendance alone you could expect to receive a 5/10 for participation. Above that, grades are earned through discussions. Students are encouraged to preplan questions or relevant comments that are of interest to particular class sessions.

2. **Accident Review:** Unfortunately, there have been many devastating accidents in the aviation industry. However, the industry is quick to respond to these accidents and the result is often significant changes to systems, procedures, and/or training. The student's task is to review accidents to find one which they believe has had the greatest impact on the aviation industry. The student must make this case in a one page executive summary of the accident details and resulting changes to the industry. This executive summary accounts for 15% of the final course grade and should be tailored for the classroom audience. The instructor will arrange photocopies of executive summaries for the class with advance notice. In addition, the student is required to make a 10 minute presentation going over the details of their chosen accident and making a case as to its importance. After the presentation the student will facilitate a class discussion of approximately 20-30 minutes about the accident and its impact. The presentation accounts for 15% of the final course grade. Accident review presentations will be distributed throughout the semester, beginning January 21st^{h}.

3. **Industry Assessment Paper:** The aviation industry is undergoing many significant changes. Examples include free flight, very-light jets, fractional ownership, safety management systems (SMS), and small aircraft transportation systems (SATS). Students are required to choose the issue which they feel will most impact the aviation industry over the next 10 years. In a 10 page paper, they must describe the issue and **make an argument** about its future impact and the effect on aviation safety. This paper will account for 45% of the final course grade. Students will also be required to make a 15 minute presentation describing their issue and arguing its importance and impact on aviation safety. This presentation will account for 15% of the final course grade. These papers are due March 25th. Presentations will be held in class on April 4th and 11th.

Plagarism: Students must write their papers in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).
Plagarism Checking: The University of Western Ontario uses software for plagiarism checking. Students may be required to submit their written work in electronic form for plagiarism checking.

Classroom Policies

1. **Respect:** It is important that we are all aware of maintaining a level of respect in the classroom. It is a good thing to become passionate about a topic, but not at the expense of becoming rude or belligerent to other students. Respect also requires each student to avoid dominating class discussions. Each of us has a unique background of experiences that broadens discussions. Therefore, the best discussions will take place when everyone in the class has contributed. There is a zero tolerance policy for disrespectful behavior in the classroom.
2. **Deadlines:** Assignments are to be turned in at the *beginning* of the class session in which they are due. Students are responsible for having assignments on the professor's desk by the time class convenes, after which time they are considered late and, if accepted, will be given less than full credit. Late assignments will lose 10% per day beginning 15 minutes after the beginning of the class session in which they were due.
3. **Mandatory Attendance and Participation:** Because of the interactive nature of this course, and the limited number of meeting times, absences will seriously affect your performance in this course. The work you do in class will constitute a part of your final grade. Your participation in class discussions and activities will affect that score positively or negatively. Please do not request permission for absences. This does not apply for Religious Observance. I do not give excused or unexcused absences. You are ultimately responsible for whatever absences you take: You know the consequences and have the ability to make your own decisions. If you miss a substantial part of the class, you will be considered absent for that day.
4. **Tardiness**: Tardiness is unacceptable; it is both rude to your classmates and the instructor and it is disruptive to the learning process going on in the classroom. I will not remind you of this, but I will keep track of those who repeatedly transgress, and it will detract from your attendance and participation grade
5. **Cell phones:** Cellular phones, beepers and other disruptive devices should either be left outside of the classroom or turned to the silent mode.

Pilot Performance and Aviation Safety

Lecture Outline

Please note: The schedule and content of classes may vary based on guest speaker availability. Every effort will be made to provide ample notice of changes.

Date & Text	**Overview**
January 7, 2009	Syllabus Overview Safety Introduction Errare Humanum Est – To Err is Human
January 14, 2009	Human Error Perspectives The Human Factors Analysis and Classification System (HFACS)
January 21, 2009	Aviation Risk Management
January 28, 2009	Risk Management
February 4, 2009	Self-mposed medical stress
February 11, 2009	Acceleration physiology (p. 216-221)
February 25, 2009	Altitude Physiology (p. 47-79)
March 4, 2009	Safety Management Systems
March 11, 2009	Safety Management Systems
March 18, 2009	Safety Management Systems
March 25, 2009	Aviation security: Crewmember perspectives Disruptive passengers and sky rage
April 1, 2009	Unconventional self-defense Epilogue: Aviation security in an era of uncertainty Presentations
April 8, 2009	Presentations Final examination review