
MOS 3305A Human Factors in Aviation FALL 2016

1. Course Information:

1.1 Class Location and Time:

UCC-60

Wednesdays, 2:30-5:30

1.2 Contact Information:

Instructor: Dr. Jonathan Histon

Office: SSC 4434

Office Hours: Wednesdays 1:30-2:15, or by appointment

Phone: n/a, please use email.

Email: jhiston@uwo.ca

Website Address: <http://owl.uwo.ca/portal>

DAN Management and Organizational Studies strives at all times to provide accessibility to all faculty, staff, students and visitors in a way that respects the dignity and independence of people with disabilities. Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2111 ext 82147 for any specific question regarding an accommodation. More information about "Accessibility at Western" is available at: <http://accessibility.uwo.ca>

2. Calendar Description

2.1 Course Description:

Psychology and physiology as they relate to human performance in a complex operating environment. Topics include pilot decision-making and crew resource management, interpersonal relations, effects of noise and vibration, pressure change, balance, motion sickness, jet lag, human factors in aircraft accidents.

3 lecture hours, 0.5 course

Prerequisite(s): Enrolment in 3rd or 4th year of the Commercial Aviation Management module of BMOS or Geography and Commercial Aviation Management module.

2.2 Senate Regulations

Senate Regulations state, "unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites."

3. Course Materials / Textbook

Required:

Wickens, C.D., Lee, J.D., Gordon, S.E., & Liu, Y. (2003). An introduction to human factors engineering. New York: Longman.

Casey, S. (2006) The Atomic Chef and other true tales of design, technology, and human error. Santa Barbara CA: Aegean Publishing Company.

Course Website: Instructional and reference material will be posted, or linked, on the course website. You can log onto the course website by visiting webct.uwo.ca with a valid student number and password.

4. Course Objectives and Format

4.1 Course Objectives

This course is designed for those students who have a **keen interest in aviation human factors**. The course focus is on the role engineering psychology research plays in the assessment of human performance in simple and complex cognitive tasks, and the design of information displays and controls that support those tasks. Through readings, written assignments, and class discussions, students will explore the relationships between various components of human information processing and the impact those relationships have on the performance of **aviation and** everyday cognitive-based tasks. By the end of the course, the students should have a good understanding of the basic theories, principles, and research that contribute to the field of cognitive ergonomics.

4.2 Course Outcomes

Through an interdisciplinary focus on evidence-based practices, and with an emphasis on teamwork and professional approaches, successful students will be able to:

- Analyze professional issues associated with human limitations,
- Assess the design characteristics of aircraft that enhance human capability,
- Examine and apply academic theory that impacts pilot performance (referencing psychology, physiology, and ergonomics)
- Collaborate with team members to identify, examine, and connect contemporary aviation issues with the theory discussed in class and present the findings to classmates.
- Synthesize information from academic sources within a group setting

4.3 Course format

The course will be organized as a combination of lecture, group discussion, group activities, and student presentations

5. Evaluation

Class Participation & Attendance (15%): 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. However, perfect attendance alone will not guarantee a perfect participation grade. Your participation grade will be dependent on your involvement in on-line and in-class discussions and activities, questioning of student presentations, and attendance.

Important Information Re: Absences: All absences will impact your participation grade. As a rule of thumb, you can expect each absence to subtract 10% of your participation grade (roughly 2% of your grade in the course). For medical absences, refer to the policy on accommodation for medical illness (<https://studentservices.uwo.ca/secure/index.cfm>). If you have a valid excuse for an absence you must inform the instructor **before the intended date**. It is the instructor's discretion whether or not to excuse an absence.

Human Factors Researcher Profile 20%: The 'Human Factors Researcher' profile assignment is intended to be done online through OWL. Students will be required to pick a Human Factors researcher of interest to them (from any aspect of aviation), research their background, motivation, and history, and develop some questions they would ask of one of the researcher. Students will use this information to post a draft profile of the researcher as a post in a discussion forum on OWL. Students will then critique ~3 profiles from other students, and use the feedback they receive to update / improve their own profile, and post a final profile.

Expert Panel (25%): Each week, a group will have a chance to analyze a case/report and lead a discussion on the case/report for the class. You will work in small groups to complete this assignment. The goal of the assignment is to offer an opportunity to practice making a business presentation as well as to become highly familiar with a particular case/report. Additional details will be provided in class.

Final Exam (40%): A comprehensive final examination will be given during the final exam period. A final exam review will be given prior to the exam. The final exam will cover all information in the course, including readings, lectures, videos, examples, etc. Therefore, it is crucial that you take good notes throughout the term. The exam format may include multiple choice, fill-in-the-blanks, short answer, and/or essay questions. Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Important Notes:

Students are responsible for material covered in the lectures as well as the assigned chapters/sections in the text.

The exam will be scheduled for 3 hours. No programmable pieces of technology are permitted in the exam. If you are found in possession of a piece of technology (cell phone, smart watch, etc) this will be considered an academic violation, if you are unsure, please ask your professor to check your device.

Students are responsible for material covered in the lectures as well as the assigned chapters/sections in the text. The examination will be held in the final exam period. Exams will not be returned to students but may be reviewed in the instructor's office.

Course readings: It is expected that all students will have completed their assigned course readings before attending each lecture. This is important as it provides an enhanced understanding of the course material and students will be prepared to ask questions in class.

Course assignments and late policy: Assignments are due at the assigned time, which may be at the beginning of the class period. Students who turn in their assignment after deadline will be subject to a minimum 10% late penalty. Additional late penalties will be incurred for each 24 hour period that the assignment is late, as specified in each assignment description. Unless arrangements are made at least 72 hours prior to a due date, there will be no exceptions to this policy. Students are expected to arrange their time so they are robust to the known challenges associated with completing assignments (power outages, network difficulties, etc...)

Students are **REQUIRED TO COMPLETE ALL COMPONENTS** of this course. There are no exceptions to this. Extra assignments to improve grades **will NOT** be allowed.

Grades will **not** be adjusted on the basis of need. It is important to monitor your performance in the course. Remember: *You* are responsible for your grades in this course.

6. Lecture Schedule

Week	Date	Topic	Readings	EP	EP Groups	Researcher Assignments
1	9/14/2016	Introduction	Ch 1, Ch 2	Caught on Tape	n/a	
2	9/21/2016	Visual System, Auditory Tactile and Vestibular Systems	Ch 4, Ch 5	Ryhmes and Reasons	K & B	Profile Rd 1 (Wednesday @ 2:00 pm)
3	9/28/2016	Attention	Ch 6	Driven to Distraction	C & D	Profile Rd 2 (Friday @ 2:00 pm)
4	10/5/2016	Displays & Controls	Ch 15	Out of Synch	E & F	Profile Rd 3 (Friday @ 2:00 pm)
5	10/12/2016	Situation Awareness and Mental Models	Ch 6	Negative Transfer	G & H	Profile Rd 4 (Friday @ 2:00 pm)
6	10/19/2016	Decision Making	Ch 7	Signal Detection	I & J	
7	10/26/2016	Workload and Complexity	Ch 13	Event Horizon	A & L	
8	11/2/2016	Stress & Fatigue	Ch 13, see OWL	End Game	B & C	
9	11/9/2016	Errors, Task Allocation & Automation	Ch 14, Ch 16	Death on Call	D & K	
10	11/16/2016	CRM & Briefings & Interruptions & Checklists	see OWL	Picture Window	F & G	
11	11/23/2016	Leadership	Ch 19	Safer than Safe	H & I	
12	11/30/2016	Training & Selection	Ch 18	Under the Radar	J & E	
13	12/7/2016	Final Exam Review	n/a	The Atomic Chef	L & A	

7. University Policy Regarding Illness

7.1 Illness

The University recognizes that a student's ability to meet his/her academic responsibilities may, on occasion, be impaired by medical illness. Illness may be acute (short term), or it may be chronic (long term), or chronic with acute episodes. The University further recognizes that medical situations are deeply personal and respects the need for privacy and confidentiality in these matters. However, in order to ensure fairness and consistency for all students, academic accommodation for work representing 10% or more of the student's overall grade in the course shall be granted only in those cases where there is documentation supplied (see below for process) indicating that the student was seriously affected by illness and could not reasonably be expected to meet his/her academic responsibilities.

Documentation shall be submitted, as soon as possible, to the appropriate Dean's office (the Office of the Dean of the student's Faculty of registration/home Faculty) together with a request for relief specifying the nature of the accommodation being requested. These documents will be retained in the student's file, and will be held in confidence in accordance with the University's Official Student Record Information Privacy Policy

http://www.uwo.ca/univsec/pdf/academic_policies/general/privacy.pdf

Once the petition and supporting documents have been received and assessed, appropriate academic accommodation shall be determined by the Dean's Office in consultation with the student's instructor(s). Academic accommodation may include extension of deadlines, waiver of attendance requirements for classes/labs/tutorials, arranging Special Exams or Incompletes, re-weighting course requirements, or granting late withdrawals without academic penalty.

Academic accommodation shall be granted only where the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete his/her academic responsibilities. (Note: it will not be sufficient to provide documentation indicating simply that the student was seen for a medical reason or was ill.)

A form to be completed by off-campus physicians is available at:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

Whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, examinations, etc. Students must follow up with their professors and their Academic Counselling office in a timely manner.

In the case of a final examination in the course, the student must arrange for a Special Examination or Incomplete through their Dean's office, for which you will be required to provide acceptable documentation.

If you feel that you have a medical or personal problem that is interfering with your work, you should contact your instructor and the Faculty Academic Counselling Office as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. In general, retroactive requests for grade revisions on medical or compassionate grounds will not be considered.

7.2 Attendance

Attendance is mandatory in this course and absences will have a negative impact on your participation grade. The professor does not guarantee to provide access to lecture notes. Students

are encouraged to obtain missed lecture notes from a fellow student. See also the section on the participation marks described above.

8. University Policy on Cheating and Academic Misconduct

Cheating on exams will not be tolerated; students are referred to the university policy on scholastic offenses (see section 9.0 below). Looking at the test of another student, allowing another student to view your exam, or obtaining information about a test in advance are all examples of cheating. Students found cheating will receive a zero (0%) on that exam. A number of safeguards will be employed to discourage cheating. For example, examination supervisors (proctors) of the tests may ask students to move to another seat during the exam, cover their paper, avert their eyes from other students' papers, remove baseball caps, etc. This is not meant as a personal affront nor as an accusation of cheating, rather as vigilant attempts at proctoring. A copy of guidelines about how to avoid cheating can be obtained from the office of the Ombudsperson, Room 3135 WSSB, (519) 661-3573.

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offenses. Students are urged to read the section on Scholastic Offenses in the Academic Calendar. Note that such offenses include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course in the University or elsewhere. If you are in doubt about whether what you are doing is inappropriate, consult your instructor. A claim that "you didn't know it was wrong" will not be accepted as an excuse.

The penalties for a student guilty of a scholastic offense include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

9. Procedures For Appealing Academic Evaluations

In the first instance, all appeals of a grade must be made to the course instructor (informal consultation). If the student is not satisfied with the decision of the course instructor, a written appeal must be sent to the Assistant Program Director or Designate of the BMOS program. If the response of the Assistant Director is considered unsatisfactory to the student, he/she may then appeal to the Dean of the Faculty in which the course of program was taken. Only after receiving a final decision from the Dean, may a student appeal to the Senate Review Board Academic. A Guide to Appeals is available from the Ombudsperson's Office.

10. Student Responsibilities

Material covered in lectures will not always be the same as material covered in the textbook. These two sources should be viewed as complimentary and not redundant. As such, students who want to do well in this course will attend lectures on a regular basis. Please note that the instructor will not guarantee to provide copies of lectures notes or overheads. Therefore, if you miss a lecture, you should try to obtain this material from another student.

In this class, some students may be unaware that their private discussions are distracting to other people. If you feel that students are distracting your attention from the material, then you should ask them to be quiet. If you feel uncomfortable doing this (or the problem persists), then please see the instructor. In addition, please avoid engaging in private discussions with other students during the lectures.

To avoid unnecessary distractions, please arrive to each class on time.

11. Support Services

11.1 Support Services

The Registrar's office can be accessed for Student Support Services at <http://www.registrar.uwo.ca>
Student Support Services (**including the services provided by the USC listed here**) can be reached at:<http://westernusc.ca/services/>
Student Development Services can be reached at:<http://www.sdc.uwo.ca/>

Students who are in emotional/mental distress should refer to Mental Health@Western
http://www.health.uwo.ca/mental_health/ for a complete list of options about how to obtain help.

12. Other Issues

12.1 Grade Policy

The DAN Program has a grade policy which states that for courses in the 3300---4499 range, the class average must fall between 70% and 77% for all sections of a course taught by the same instructor. Although specific proportions of grades around this mean are not required, it is expected that a meaningful distribution around the mean will be achieved. In very exceptional circumstances only, class averages outside this range may be approved by the Undergraduate Chair or Chair. Class averages are not grounds for appeal.

12.2 Short Absences.

If you miss a class due to minor illness or other problems, check your course outlines for information regarding attendance requirements and make sure you are not missing a test or exam. Cover any readings and arrange to borrow the missed lectures notes from a classmate.

12.3 Extended Absences.

If you are absent more than approximately two weeks or if you get too far behind to catch up, you should consider reducing your workload by dropping one or more courses. The Academic Counsellors can help you to consider the alternatives. At your request, they can also keep your instructors informed about your difficulties.

12.4 Academic Concerns.

If you are in academic difficulty, it is strongly recommended that you see your academic counsellor.

13. Other Information

- Please do not use music players, cell phones, beepers, or other electronic devices in class.

For The University of Western Ontario Senate Regulations, please see the Handbook of Academic and Scholarship Policy at: http://www.uwo.ca/univsec/academic_policies/index.html

14. E-mail Policies

The following policies apply to all emails between students and the Professor. Please respect the fact that the Professor receives hundreds of emails from students and must deal with those emails in a fair and organized manner. Non-acceptable emails, if responded to at all, will only receive a reply saying "Please see Email Policies on the course outline".

14.1 UWO.CA Email Addresses Only

For privacy reasons, students must use their Western email accounts to contact the Professor. The Professor will not respond to emails from non-uwo.ca addresses (e.g. hotmail.com, gmail.com, etc.).

14.2 Acceptable Emails

- questions about the course content or materials
- asking to set up an appointment to ask questions or review an exam
- notification of illness or other special circumstances
- providing constructive comments or feedback about the course

14.3 Non-Acceptable Emails

- questions that may be answered on OWL or on this course outline
- asking when grades will be posted
- asking what grade a student received
- asking where or when an exam is scheduled or the material covered on an exam
- requests for grade increases, extra assignments, or reweighting of course components