



COURSE OUTLINE: ATQ113 - AV HSTRY & STRUCTURE

Prepared: Paul Bursche

Approved: Greg Farish, Chair, Aviation Technology - Flight

Course Code: Title	ATQ113: AVIATION HISTORY AND STRUCTURE
Program Number: Name	4161: AVIATION TECHNIQUES
Department:	CONTROL - SAULT
Semesters/Terms:	20F
Course Description:	This course has been designed to introduce the aviation industry on a global scale with a broad view of all the interconnected professional groups. Cross-sections of the industry, from air law to operations, security to remotely piloted aircraft will be examined. Students will gain a foundation of aviation industry awareness that will support the next generation of professionals as they choose a career path that best aligns with their interests and ambitions.
Total Credits:	2
Hours/Week:	1
Total Hours:	15
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Essential Employability Skills (EES) addressed in this course:	<p>EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.</p> <p>EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication.</p> <p>EES 4 Apply a systematic approach to solve problems.</p> <p>EES 5 Use a variety of thinking skills to anticipate and solve problems.</p> <p>EES 6 Locate, select, organize, and document information using appropriate technology and information systems.</p> <p>EES 7 Analyze, evaluate, and apply relevant information from a variety of sources.</p> <p>EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others.</p> <p>EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.</p> <p>EES 10 Manage the use of time and other resources to complete projects.</p> <p>EES 11 Take responsibility for ones own actions, decisions, and consequences.</p>
General Education Themes:	Science and Technology
Course Evaluation:	Passing Grade: 70%, B A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2020-2021 academic year.



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Books and Required Resources:

Fundamentals of International Aviation by Suzanne K. Kearns
 Publisher: Routledge Edition: 1st Edition
 ISBN: ISBN 9781138708976

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Understand the importance of international air law and how it has shaped the aviation industry of today.	1.1 Understand the origins of aviation and the history of aviation regulations. 1.2 Describe the 1944 Chicago Conference, as well as the structure and function of the International Civil Aviation Organization (ICAO), which was created as a result of the Conference. 1.3 Differentiate between multilateral, bilateral and national aviation regulations. 1.4 Identify the various internal organizations that influence international aviation regulations.
Course Outcome 2	Learning Objectives for Course Outcome 2
2. Observe the workings of aircraft, how and why they fly and the individuals who provide maintenance.	2.1 Identify and name several categories of aircraft 2.2 Outline the basic process that enables aircraft to fly and to be controlled while airborne. 2.3 Name two types of engines and describe their key differences. 2.4 Explain how international regulations impact the design and airworthiness of aircraft. 2.5 Describe the training, roles, and work environments of aviation maintenance professionals.
Course Outcome 3	Learning Objectives for Course Outcome 3
3. Develop an understanding of the operational-side of the aviation industry.	3.1 Describe international regulations impacting aviation operations. 3.2 Summarize how aviation professionals are trained and licensed. 3.3 Explain several categories of aviation operations within the general aviation sector and the airline sector. 3.4 Discuss the safety considerations related to transporting dangerous goods by air
Course Outcome 4	Learning Objectives for Course Outcome 4
4. Understand the concepts and history of navigational use in aviation.	4.1 Explain why air traffic management is essential in the aviation industry 4.2 Differentiate between the various roles in which air traffic control officers work and the ways in which they ensure safe separation of aircraft. 4.3 Discuss three key considerations in air navigation - communication, surveillance, and navigation, including the technologies, standards, and expectations involved in accomplishing each. 4.4 Outline some of the ways in which the aviation industry continues to innovate with respect to the future of air navigation, making specific reference to NextGen and SESAR

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Course Outcome 5	Learning Objectives for Course Outcome 5
5. Understand the importance and regulatory status of airports.	5.1 Summarize the history of airports including the evolution and role of Airports Council International. 5.2 Describe international regulations that apply to airports. 5.3 Explain the organizational structure of airports, specifically key considerations and design elements of airside and landside operations.
Course Outcome 6	Learning Objectives for Course Outcome 6
6. Examine the multi-layered system of security within the aviation industry.	6.1 Describe several international conventions that have created global standards for security. 6.2 Explain how preventative security measures are designed to anticipate unpredictable actions and prevent their occurrence before they impact aviation security. 6.3 Discuss the types of unlawful acts and criminal activities that occur in aviation, including terrorism, drug smuggling, and human trafficking. 6.4 Outline how modern security initiatives are intended to ensure security, while balancing passenger privacy and the efficiency of passenger and aircraft movements.
Course Outcome 7	Learning Objectives for Course Outcome 7
7. Disseminating forecasts while understanding the environmental impact aircraft have on our climate.	7.1 Describe the changing world climate, including the impact of significant weather events on aviation activities. 7.2 Explain environmental protection initiatives. 7.3 Describe the global community's collaboration in forecasting weather and disseminating the information internationally.
Course Outcome 8	Learning Objectives for Course Outcome 8
8. Understand why and how accidents occur in aviation.	8.1 Describe the global accident rate and the related costs of an accident. 8.2 Explain the role of search and rescue. 8.3 Differentiate between accidents and incidents.
Course Outcome 9	Learning Objectives for Course Outcome 9
9. Explore the evolving aviation industry by examining Remotely Piloted Aircraft(RPA)and the associated challenges they bring.	9.1 Describe the history of remotely piloted aircraft. 9.2 Discuss the RPA market and explain which sectors are expected to have the greatest growth in the coming years. 9.3 Identify how the traditional international aviation industry is evolving to facilitate the integration of RPAs, noting regulatory, manufacturing, operational, and navigational considerations. 9.4 Describe the various factors that must be considered as the use of RPAs evolve, including security, the environment, and safety.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Case Study	20%
Final Exam	30%
Mid Term	30%

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	Quizzes	20%
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Date: August 27, 2020

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.

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