LGAV 4100: Airport and Infrastructure Planning & Control

Spring 2026, MW 2:00 PM – 3:20 PM, BLB 050

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Office Hours:	Monday and Wednesday 3:30 PM – 5:00 PM
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Course Description

This capstone course provides a thorough exploration of airport operations management. It covers topics such as airport history, the roles of government agencies, hinterland development, and the effects of deregulation and wide-bodied aircraft. Emphasis is placed on the airport planning process and relevant Federal Aviation Regulations. This course is taken in the final term of study, and prerequisites are LGAV 3100 and LGAV 3130.

Primary Text and required reading

Primary Text: Seth B. Young and Alexander T. Wells, *Airport Planning & Management*, 7th Edition. McGraw-Hill: New York, NY. ISBN-10: 1260143325, ISBN-13: 978-1260143324.

Required Reading: You will need to purchase the following cases for this course. See Canvas for a link to Harvard Business Review and IMD cases to download these cases.

1. *Perfect Storm over Zurich Airport (A)*, Harvard Business Case 9-408-023
2. *BAE Automated Systems (A): Denver International Airport Baggage-Handling System*, Harvard Business Case 9-396-311
3. Logan Airport Cases
   Delays at Logan Airport, Harvard Business Case 9-102-011
   Delays at Logan Airport Problem Set, Harvard Business Case 9-102-022

Core Curriculum

This course is a key part of UNT's Core Curriculum in Social and Behavioral Sciences. It applies empirical methods to explore what makes us human, focusing on the foundations of history, economics, and public policy in the National Transportation System. Students will examine the interplay between economic activities (jobs, investment, business growth), social benefits (safety and cultural connections), and the environmental costs of aviation, including air pollution and traffic congestion.

Core Objectives

In this course, students enhance critical thinking, communication, empirical analysis, and social responsibility skills. They engage in creative inquiry, emphasizing mathematics and composition while analyzing airport operations within the National Transportation System.

Students learn to effectively present their ideas through written, oral, and visual means, ensuring their findings resonate with decision-makers. They develop skills in analyzing numerical data, weighing the economic and social benefits of aviation against environmental impacts.

The course emphasizes social responsibility by exploring the impact of aviation organizations on communities and considering the ethical implications. Students study airport planning and management principles, delving into the historical and legislative foundations of the National Airport System.

Addressing regulatory and social issues in airport management, they tackle challenges like gate allocation and

airspace management. The curriculum also covers international customs and regulations, broadening their perspectives.

Through written assignments, students sharpen their information-gathering and communication skills, preparing for future roles in the aviation industry and equipping themselves with essential data analytics and presentation skills for a dynamic landscape.

Course Materials

Canvas: Course materials, slide presentations, assignments, quizzes, case studies, graded work, and outside readings will be available on the course web page via Canvas. Students should refer to Canvas often throughout the course to remain current.

Outside Reading: Additional readings may be assigned throughout the course as determined by the professor.

Software: Most printed resources are in PDF format, so you'll need Adobe Acrobat Reader to view them. You can download it for free at www.adobe.com.

Course Format

This course is conducted through a combination of lectures, in-class discussions, case studies, quizzes, and exams. The lectures will cover foundational material for each assigned topic, but may not necessarily cover all the material as presented in the text and outside readings. Students are still responsible for all material assigned.

AAAE Certified Member Program

The American Association of Airport Executives offers a Certified Member Program (CM) for Academic Graduate members following graduation. The AAAE certification exam is OPTIONAL, but will significantly improve your resume should you wish to work for whenever possible. Additional information about the CM Program and the AAAE Learning modules is available on Canvas.

Expectations

Some assignments in this course will integrate material from previous courses in the Aviation Logistics Program. You are expected to pull material from your previous courses, as needed to complete the assignments. You are expected to attend all classes and be prepared to discuss and/or apply the assigned reading. Students will be called upon to discuss the topics/concepts in class.

Grading

Grading will be based on your performance on the following graded element:

Graded element	Percent	Points
A. Resume (15) and Student Acknowledgement and Acceptance (10)	2.2%	25
B. Professional Development	3.5%	40
C. Airport Case Study and Presentation	13.0%	150
D. Airport Analysis Project: data collection (25 points x 2), data presentation (50 points), final report (60 points) and presentation (100 points)	22.5%	260
E. HomeWorks (Individual work) (1 @ = 70) - Impact of new technologies (Autonomous vehicles)	6.1%	70
F. Quiz (8 @ ≈34 points)	23.5%	272
G. Exams (Mid-term exam: 170 points; Final exam: 170 points)	29.4%	340
	100%	1157

* 2 points and 45 to 50 seconds per one question.

Note: Students **may not be allowed** to retake or resubmit graded material, to include assignments, quizzes, homework, projects, and exams. See the section on grade disputes in this syllabus if you have questions about your grade.

Grading Scale
The grading scale is guaranteed. You will receive no less than the grade listed within the appropriate interval and (or) class attendance based on the attendance sheet. Numerical Grades will not be rounded up to the next higher letter grade. However, I may adjust the grading scale for the class, if warranted. I will not post final grades beyond what is available on Canvas. If you provide reasonable reason with official evidence for your absence which is needed approval in advance, it would be recognizable.

Grade	Numerical Range (%) (Primary)	Condition	Class Attendance [1] (Secondary)
A	90 - 100	and	>= 80%
B	80 - <90	and	>= 75%
C	70 - <80	and	>= 70%
D	60 - <70	and	>= 65%
F	<60	or	=< 50%

No Opportunities for Extra Credit: No extra credit will be available unless it is offered to the entire class.

Submitting Assignments and Due Dates: Assignments are due on the date identified in the course schedule and must be uploaded to Canvas by 2359 hours unless otherwise indicated. I will not accept hard copies of assignments and may be uploaded any assignment to Canvas early. As a general rule, I will not accept homework that is emailed.

Correct spelling, grammar, and punctuation are expected on all graded material. All assignments will be types (25%-point penalty, if not) unless otherwise indicated.

The acceptable assignment formats include jpg, .jpeg, .pdf, .doc, .docx, .ppt, .pptx, .xls, .xlsx. The professor must approve exceptions to file format.

File Naming Convention: Ensure all files uploaded to Canvas include your last name and assignment title (e.g., Hong_Abstract1Part1.doc). Do not use apostrophes or commas in the file name since the file cannot be read in Canvas.

Lateness: Students are encouraged to turn in all work, even when late. Partial points are better than no points!! The number one reason for poor performance in this class is a failure to do assigned work and quizzes—zeros are not your friend!

Assignments: Late assignments will earn a 10% penalty (one letter grade) for each day past the due date.

Quizzes and Exams: There are no Make-Up Exams nor quizzes in this course, except for bona fide emergencies, as noted below.

The late penalty (late assignments and late quizzes) may be waived with a valid reason beyond the control of the student and with prior approval from the professor. The professor may require documentation to waive the late penalty.

In the event of a bona fide emergency beyond the control of the student, the student should contact the professor as soon as possible. Documentation to support the emergent situation is required before the

professor will consider a make-up exam.

A. Resume

Continued refinement of your resume is a habit you should develop and implement throughout your career. As your career objectives and skills change, so should your resume. It is also important, particularly as you prepare for internships and job interviews to have your resume "ready to send." To help in this process, your first assignment is to **submit your resume** via Canvas per the class schedule.

To receive full points for your resume:

1. Name your RESUME using the following convention:
   Example: Instructor or StudentLastName_Semester_Year (see Attachment 1)
2. Upload your resume to Canvas by the due date.
3. Comply with expectation in the grading rubric.

B. Student Acknowledgement and Acceptance

Read attachments 2 and 3 for the UNT College of Business Student Ethics Statement and student acknowledgment and acceptance. Submit attachment 2 with your signature, date, and printed name by the due date.

C. Professional Development

As part of your journey in completing a Supply Chain Management course, you will actively participate in professional development activities that are focused on preparing you for a successful career. Your task is to build a Professional Development Portfolio that documents your engagement, reflects on your learning, and connects your experiences.

In Supply Chain Management courses, you are enrolled in (courses beginning with LSCM, OPSM, LGAV, and PRCH), you may complete Professional Development activities to earn a required number of points in Professional Development.

These activities are designed to help you prepare for a professional career, expand your network, and optimize your knowledge. By participating in events and completing activities, you will earn digital badges to showcase on your LinkedIn and Resume, all while gaining valuable experience that sets you apart. You are required to participate in **two categories of professional development** (PD).

1. **Supply Chain Management Speaker Series**: A series of weekly lectures offered by the Department of Supply Chain Management. Attend at least one Supply Chain Management Executive Lecture. Events are held on Wednesdays from 5:00 to 5:50 p.m. in BLB 180. These are in-person only, and you will need to use the Suitable app to participate.
   The first step is to download the Suitable App.
   Scan the QR Code to download the app or search, "Suitable" in your app store.

Logged in
Log in using this email format: EUID@untsystem.edu. For example: jld0426@untsystem.edu. (DO NOT use your my.unt.edu email address. Be sure to use the email format listed in this step. It will take you to your UNT single sign-on page.)

Allow Notifications
This will ensure that you receive push notifications for events, activities, and pop-up badges. Also, make sure to give Suitable access to your camera, this is to make sure you can scan QR Codes for events.

2. **Professional Student Organization Speakers**
   Several meetings hosted by the professional student organizations will have executive speakers, which can also be used for professional development. Date and time information for both can be found on the schedules at the end of this section. See the notification from the Professional Student Organization for more information on time and location.

3. **Industry Facility Tours** will be organized with the Professional Student Organizations, and details are provided at the end of this section. Attendees must arrange their transportation, as it will not be provided. For dates, times, and locations, refer to the schedule or notifications from the Professional Student Organization. Registration will open via a Qualtrics link sent to faculty and students one week before the event. Students can register until capacity is reached or registration closes, whichever occurs first.

4. **Registration for Events**
   For all events, registration is required. Registration closes at 5:00 pm the day before the event. Announcements, Event Details, and Registrations will be distributed one week before the event. Registration will be done through a Qualtrics link sent to all faculty and students one week before the event. Post-event attendance reports will be sent to the professors. Reports will include a list of registered participants, including each attendee's arrival and departure times. All registered attendees must arrive 10 minutes before the event's start time. Walk-ins are welcome to attend events based on availability. Availability will be determined 10 minutes before the start of the event. If a registered attendee is not checked in 10 minutes before the event, their seat will be given to a walk-in.

By selecting the course number (LGAV 4100) on the registration form, students will choose which class to receive Professional Development attendance credit. Students can change the course number for a registered event by contacting Ruben.Garcia@unt.edu. Students also can cancel their registration by contacting the same email. Immediately after registering, students will receive a registration confirmation. Suppose a student has registered for an event and cannot attend. In that case, they should cancel their registration no later than 24 hours before the event's start time. The registration system will allow students to register for an event until capacity restrictions are met or registration closes, whichever comes first. Registered students should arrive 10 minutes before the start of the presentation, as your seat can be forfeited to students standing by.

Students must abide by all the following policies to receive attendance credit for speaker events and group tours. Participation in any event will only count toward one class the student selects during registration. Students receive attendance credit for registering, arriving on time, and staying for the event. Failure to register, validated from the attendance report generated after the event, will prevent students from receiving attendance credit. Failure to participate for at least 75% of the duration of the event will prevent students from receiving attendance credit. Failure to attend an event after prior confirmed registration will lead to a loss of points from the student's final accumulated credit unless the student cancels the registration at least 24 hours before the event's start time. Such loss of points may not be recovered by participating in other Professional Development events. Some professors have additional requirements before students receive attendance credit for Professional Development. All attendance credits are given at the discretion of the

professor.

For all questions regarding the Professional Development opportunities not answered by content found in the class syllabus or if you would like to request accommodations for any SCM event, please send an email to Ruben.Garcia@unt.edu.

Another method to get PD: Choose one video from attachment 4 (References-You tube Video), summarize it in one page with single space with 12 fonts using Times new roman, and turn it in through my email (seock.hong@unt.edu) before the due date. You could choose a video other than the list with my consent in advance. Only one is allowable, no more than two.

D. Case Study Analysis (See attachment 6)

This course focuses on developing critical thinking skills through analyzing and resolving applied problems, using various case studies on Airport Systems and Management. Students will integrate knowledge from the business core and prior logistics courses to complete individual analyses. Each analysis, due on the class schedule date, requires a minimum of ten PowerPoint slides, including a cover page, executive summary, and personal comments.

The executive summary is a concise document that summarizes key elements of the analysis—highlighting the problem, background information, analysis, and conclusions—to assist managers in decision-making. Each case has specific expectations outlined in the instructions. Choose one case from the list of 1 to 17 (worth 150 points: 70 points for slides and 80 points for presentation) **to avoid duplication with classmates**.

Case 1: Mina O'Reilly at Logan Airport's TSA
Case 2: Airside Expansion at Lambert Field: The Blues in St. Louis
Case 3: JetBlue Airways: Deicing at Logan Airport
Case 4: Lobbying for Love? Southwest Airlines and the Wright Amendment
Case 5: Leveraging the runway capacity shortage in South East England
Case 6: Berlin Brandenburg International Airport
Case 7: Divestment of Changi International Airport Services by Temasek Holdings
Case 8: Airport Privatization (Choose either one Case 8-1 or 8-2)
    Case 8-1: Privatizing the Albany County Airport
        and privatizing the Albany County Airport: Epilogue
    Case 8-2: Airport privatization
Case 9: Edmonton City Centre Airport: A Sustainability Challenge for a Growing City
Case 10: Airport service transformation: The case of Delhi International airport
Case 11: Bengaluru Airport: Crisis Leadership through a Pandemic
Case 12: Airport retailing at Mondelez: The launch of Toblerone crunchy almond in Asia
Case 13: Operations Management Challenges at Heathrow Airport (Part A and B)
Case 14: Orlando International Airport: Landing International Airline Business
Case 15: The Public-Private Partnership Hurdle Race: The Case of Delhi International Airport
Case 16: Rio de Janeiro Galeao International Airport Concession
Case 17: San Francisco International Airport and Quantum Secure's SAFE for Aviation System

Format: The preferred format is Microsoft PowerPoint. Microsoft Excel may also be used for cases requiring more complex problem-solving.

E. Airport Data and Strategy Analysis Project (See attachment 7)

This case explores various international airport business models, focusing on your chosen airport from regions like North America, South America, Asia-Pacific, Europe, the Middle East, and Africa. You'll develop strategies and policies for the airport, covering operations, financial statements, and a mission and vision analysis.

F. Homework

There will be one assignment throughout the semester that will be posted in the class schedule in this syllabus or announced in class and will post on Canvas (See Attachments 8).

G. Quizzes

This course includes numerous quizzes that will be administered via Canvas. You should expect approximately one quiz each week covering the assigned material. Exceptions to the weekly quiz will be noted in the syllabus, or announced in class and/or Canvas. All assigned material (text, lecture slides, outside reading) and classroom discussions are fair game for each quiz. All quizzes are "open notes/open book." Quizzes will include a combination of multiple choice, true/false, and short answers.

Online Quizzes: Once you begin taking the quiz on Canvas, you will have a limited time (**50 seconds per question**) with which to complete the quiz. Therefore, you should be familiar with the material before attempting the quiz. The quizzes are designed to prepare you for the course exams. Therefore, you will see similar questions on the exams. There will be approximately 9 quizzes in this course. All quizzes will count toward your final grade.

Two same quizzes, the first quiz (regular quiz) open from 10:00 am on Wednesday to Thursday's midnight. The second quiz (late quiz) from 00:01 am on Friday to midnight on Saturday with given week. Regular quizzes (Q1, Q2,..Q8) and late quizzes (Q1L, Q2L,…Q8L) will be given for each quiz from Quiz #1 to #8. **It would be best to choose only a regular or late quiz. Do not take both quizzes per quiz.** Late quizzes will earn a 50% penalty if you miss the regular quiz. **Both quizzes could get the lowest score between regular (Q#) and late quizzes (Q#L).**

All quizzes will count toward your final grade. Late Quizzes: Late quizzes will earn a 50% penalty when completed past the due date.

H. Examination & Preparation

This course includes two comprehensive in-class exams that cover textbook material, outside readings, lectures, discussions, and assignments. All material is your responsibility, even if not highlighted in class. The exams will consist of multiple-choice, true/false, short-answer questions, and closed notes/closed book. Makeup exams are allowed only in extraordinary circumstances.

The final exam will also be comprehensive, focusing on previously tested material.

To prepare, review chapter objectives, and answer the review questions. Staying current with readings and class participation typically leads to better performance.

Written assignments include your resume, case study analyses, and short answer/essay responses. All submissions should be neat, clear, and concise in Microsoft Word or PDF format. Assignments must be typed; a 25% penalty applies for those that are not.

Oral Communication Skills

The oral communication skills are developed through daily class discussion, participation, and presentations. Students are expected to provide well-reasoned and concise discussion or arguments, contributing to the in-class discussion.

Attendance & Tardiness

Class attendance is required to fully understand the material and prepare for the homework and exams. Missing these opportunities could adversely influence your grade.

Students are responsible for all material covered in class, including changes to the syllabus, course schedule, and course materials. I will not supplement missed lecture material, even with excused absences. If you miss a class, you should arrange with your classmates for any supplementary material or class notes.

Academic Integrity
Cheating, plagiarism, and unauthorized assistance will result in an automatic "F" for the course. All assignments, including quizzes and presentations, must be your original work. Discussions about your work are only allowed with prior approval. Plagiarism, such as copying or downloading content, is strictly prohibited.

Ensure your work is in your own words, with all borrowed ideas properly cited using numbered footnotes or the (author year) format. Quoting sources must be done correctly. Submitting large portions of text from other sources, even if cited, will also be considered a failing offense.

Americans with Disabilities Act: The College of Business Administration complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with a disability. If you have an established disability as defined in the Ace and would like to request an accommodation, please see me as soon as possible. I can be contacted at the location and phone number shown in this syllabus. Please note: University policy requires that students notify their instructor within the first week of class that an accommodation will be needed. Please do not hesitate to contact me now or in the future if you have any questions or if I can be of assistance.

Course Grade Appeals, Withdrawals, & Incompletes: Please refer to the UNT Undergraduate Catalog for policies governing these actions. If you have any questions, please contact me for clarification. Please note: I only use an incomplete for extraordinary circumstances. An incomplete grade will not be used simply to provide more time to complete the course requirements.

Exam & Assignment Grade Appeals: If you disagree with how any assignment or examination was graded, you must submit a written appeal by email or letter within one week after the grade was awarded or the graded work was returned. The written appeal should include your concern or question about your grade, an explanation about why you believe your answer is correct, AND documentation or evidence supporting your belief. Appropriate documentation includes references from the text, course lecture slides, or outside reading from the course syllabus. Appeals without supporting rational and specific reference(s) to the course will be returned without consideration. Under no circumstances will grades be lowered.

Cell Phones: All cellular or digital phones and pagers are to be turned off during class.

Laptops: Laptops and other devices (e.g., iPad) in the classroom may not be used for web browsing, email, or activity not directly related to the course content for the day.

Class Schedule Required Reading, & Assignments
The schedule, policies, and assignments contained in the course syllabus are subject to change in the event of extenuating circumstances, to accommodate class progress, to provide a more in-depth focus or discussion where warranted, to take advantage of a guest speaker, or by agreement between the instructor and students. **All changes will be announced in class before the change and posted on Canvas.**

Week	#	Date	Topic, Assignments, and Readings
W 1	1	Jan 12 Mon	Course Introduction : Review Syllabus and Course Requirement
	2	Jan 14 Wed	Review: Airport Case and Airport research project Instructions (I)
W 2	3	Jan 19 Mon	MLK Jr. Day [No Class]
	4	Jan 21 Wed	Review: Airport Case and Airport research project Instructions (II) Aviation Location Identifier Due: Student Acknowledgement and Acceptance Quiz #1 Syllabus quiz
W 3	5	Jan 26 Mon	Chapter 1 Airports & Airport System : Introduction
	6	Jan 28 Wed	Chapter 2 Airports & Airport Systems: Org & Admin
W 4	7	Feb 2 Mon	Chapter 3 Airport & Airport Systems: Historical, Legislative & Economic Aspect Due: Resume and Release Form until 23:59
	8	Feb 4 Wed	Chapter 4 The Airfield / Discussion: Construction Plans for La Guardia Airport Quiz #2 Ch. 1 & 2 Airports and airport system-Intro, Org & Admin / Location Identifiers Due: The initial data collection due date for the airport project is 23:59 this Friday.
W 5	9	Feb 9 Mon	Discussion on your initial data collection for airport project
	10	Feb 11 Wed	Chapter 5 Airspace and Air Traffic Control Discussion: Privatization of Air Traffic Control System Quiz #3 Ch. 3 Historical Legislative & Economic Aspect & Ch. 4 Airfield
W 6	11	Feb 16 Mon	Chapter 6 Airport Terminals and Ground Access: APM 7
	12	Feb 18 Wed	Chapter 9 Airport Financial Management Quiz #4 Ch. 5 Airspace and ATC
W 7	13	Feb 23 Mon	In-class Movie: "Big, Bigger, Biggest Airports." You need to complete your first PD by the end of today.
	14	Feb 25 Wed	Preparation for the Airport Case Study Presentation [No Class] Quiz #5 Ch. 6: Airport Terminals & Ground Access
W 8	15	Mar 2 Mon	Chapter 12 Airport Capacity and Delay Case Study: Delays at Logan Airport Class Quiz: Airport Queuing theory
	16	Mar 4 Wed	Mid-Term Exam
W 9	17	Mar 9 Mon	Spring Break [No Class]
	18	Mar 11 Wed	Spring Break [No Class]
W 10	17	Mar 16 Mon	Airport data presentation (I) Review: Airport Case and Airport research project Instructions Advanced air mobility, automated and autonomous vehicles at airport The deadline for collecting the airport data is set for before your presentation.
	18	Mar 18 Wed	Airport data presentation (II) Quiz #6 Ch. 9: Airport Financial Management
W 11	19	Mar 23 Mon	Airport data presentation (III)

	20	Mar 25 Wed	Airport data presentation (IV) Chapter 11 Airport System & Master Planning Case Study: Zurich, Denver airport, and Munich airport Quiz #7 Ch. 12: Airport Capacity & Delay and YouTube Video "Big, Bigger, and Biggest"
W 12	21	Mar 30 Mon	Impact of New Technology (I & II)
	22	Apr 1 Wed	Guest Speaker (Ryan Adams, Director of Airport, Denton Enterprise Airport) Quiz #8 Ch. 11: Airport System & Master Planning
W 13	23	Apr 6 Mon	Airport case study and presentation (I) Part 3-Chapter 10: The Economic, Political, and Social Role Due: Homework (New Technology) until 23:59
	24	Apr 8 Wed	Airport case study and presentation (II) Due: Airport case study – presentation slides until 23:59.
W 14	25	Apr 13 Mon	Airport case study and presentation (III)
	26	Apr 15 Wed	Airport case study and presentation (IV) Due: Airport Project-presentation PowerPoint slide until 23:59 Due: The 2nd PD to submit by the end of today.
W 15	27	Apr 20 Mon	Airport Project Presentation (I)
	28	Apr 22 Wed	Airport Project Presentation (II)
W 16	29	Apr 27 Mon	Airport Project Presentation (III)
	30	Apr 29 Wed	Airport Project Presentation (IV)

Final Exam: Monday, May 4, 2026, 2:00 to 3:30 pm

Thanks in advance for your participation! Have a great semester

Attachment 1: Resume Assignment

So, you attend a professional meeting tonight and chat with a vice president with a 3PL. "Looking for an exceptional UNT graduate highly capable of doing great things for your company?" you ask. She replies, "Send me your resume by Noon tomorrow."

Now is the time to get your resume in shape. Complete the attached resume cover sheet and post in the Assignments module within Canvas. To avoid a reduction in participation points, name your resume file using your last name and the term and year of your graduation. For example:

StudentLastName_LGAV4100_Semester_Year
Example: **HONG_LGAV4100_Spring_2026**

Failure to properly name your file will result in a penalty of participation points. Late submissions will receive a three-point reduction in their final grade. The logistics faculty will use this resume to send to companies that contact us throughout the semester so make sure it is your very best, no excuses. You have the right to request your resume not be distributed to potential employees.

You must complete the form on the following page, turn-in a signed copy as a scanned pdf or Word document (cut and paste out of the syllabus), and post your resume in Canvas no later than the due date.

Resume Rubric

Learning Outcome	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations	Awarded / Possible Points
	≥ 90%	≥ 80%	≥ 70%	≤ 70%	
Presentation Format & Compliance with Syllabus	- Typed (.doc or .pdf) - Eye appeal with balanced margins - Format highlights strengths and information - Varied and professional fonts and point size - File names comply with syllabus - Signed Resume Release Form complies with the syllabus **(2.5 – 2.1 points)**	- Typed (.doc or .pdf) - Balanced margins - Format identifies strengths and information - Appropriate fonts and point size - File names comply with syllabus - Signed Resume Released Form complies with the syllabus **(2 points)**	- Typed (.doc or .pdf) - Somewhat balanced margins - Format identifies strengths and information - No variation in fonts and/or point size - File names do not comply with syllabus - Missing or incomplete Resume Release Form **(1.75 points)**	- Typed (.doc or .pdf) - Unbalanced margins - Format identifies strengths and information - Fonts distract from readability - File names do not comply with syllabus - Missing or incomplete Resume Release Form **(< 1.75 points)**	**/2.5**
Job Specific Information	- All power/action phrases used to describe duties and skills - Information demonstrates ability to perform the job - Professional terminology used when describing skills **(5 – 4.5 points)**	- 1-2 duties/skills lack action phrases - Information demonstrates ability to perform the job - Some professional terminology used when describing skills **(4.4 –4 points)**	- 3-4 duties/skills lack action phrases - Some information demonstrates ability to perform the job **(3.9 – 3.5 points)**	- 5-6 duties/skills lack action phrases - Information does not clearly demonstrate ability to perform the job **(< 3.5 points)**	**/5**
Resume Content	-Header, Objective, Education, Skills, Experience covered in detail -Name, address, phone #, email -Extra information was given to enhance resume **(5 – 4.5 points)**	-Header, Objective, Education, Skills, Experience covered in some detail -Name, address, phone #, email -Extra information was given to enhance resume **(4.4 – 4 points)**	-Header, Objective, Education, Skills, Experience covered with little detail -Name, address, phone #, email -Minimal extra information was given to enhance resume **(3.9 – 3.5 points)**	-Missing one of the following: Header, Objective, Education, Skills, Experience -Name, address, phone #, email -No extra information was given to enhance resume **(< 3.5 points)**	**/5**
Spelling & Grammar	- No spelling errors - No grammar errors **(2.5 – 2.1 points)**	- 1-2 spelling errors - 1-2 grammar errors **(2 points)**	- 3-4 spelling errors - 3-4 grammar errors **(1.75 points)**	- 5-6 spelling errors - 5-6 grammar errors **(< 1.75 points)**	**/2.5**
				Total Score:	**/15**

Attachment 2: Student Acknowledgement and Acceptance

I have received and read the LGAV 4100 course syllabus and understand all of the requirements stipulated therein. I am aware of the course information and requirements regarding:

- UNT College of Business Student Ethics Statement
- Plagiarism and penalties
- Individual effort on homework assignments
- Requirement to contribute on airport research project and case study
- Class attendance
- Professional developments
- Executive lecturer and on-boarding program attendance
- Grading and graded elements
- Use of Canvas

_____

Signature

_____

Date

_____

Printed Name

Attachment 3: UNT College of Business Student Ethics Statement

As a student at the UNT College of Business, I will abide by all applicable policies of the University of North Texas, including the Student Standards of Academic Integrity, the Code of Student Conduct and Discipline and the Computer Use Policy. I understand that I am responsible for reviewing the policies as provided by the link below before participation in this course. I understand that I may be sanctioned for violations of any of these policies by procedures as defined in each policy.

I will not engage in any acts of academic dishonesty as defined in the Student Standards of Academic Integrity, including but not limited to using another's thoughts or words without proper attribution (plagiarism) or using works in violation of copyright laws. I agree that all assignments I submit to the instructor and all tests I take shall be performed solely by me, except where my instructor requires participation in a group project in which case, I will abide by the specific directives of the instructor regarding group participation.

While engaged in on-line coursework, I will respect the privacy of other students taking online courses and the integrity of the computer systems and other users' data. I will comply with the copyright protection of licensed computer software. I will not intentionally obstruct, disrupt, or interfere with the teaching and learning that occurs on the website dedicated to this course through computer "hacking" or in any other manner.

I will not use the university information technology system in any manner that violates the UNT nondiscrimination and anti-sexual harassment policies. Further, I will not use the university information technology system to engage in verbal abuse, make threats intimidate, harass, coerce, and stalk or in any other manner which threatens or endangers the health, safety or welfare of any person. Speech protected by the First Amendment of the U.S. Constitution is not a violation of this provision, though fighting words and statements that reasonably threaten or endanger the health and safety of any person are not protected speech.

Students Standards of Academic Integrity
http://policy.unt.edu/sites/default/files/untpolicy/pdf/7-Student Affairs-Academic Integrity.pdf

Code of Student Conduct Discipline
http://conduct.unt.deu/sites/default/files/pdf/code of student conduct.pdf

Computer Use Policy
http://policy.unt.edu/policy/3-10

Attachment 4: References-YouTube video

Airport related videos

1. Why Airport Architects Don't Want Travelers to Depend on Signs (8 min 2): https://www.youtube.com/watch?v=oeJcvKZG2w8
2. The True Scale of the World's Largest Airports (6 min 44): https://www.youtube.com/watch?v=rv4pOrt4KpM
3. How Do You Design an Airfield? An Airport Planner Explains | WSJ (7 min 55): https://www.youtube.com/watch?v=4mkpJkdk-1A
4. This Airport Has Its Own Island | Super Structures | Spark (51 min 40): https://www.youtube.com/watch?v=ETLVqETJAFQ
5. What to Expect When You Fly in the Future | WSJ (7 min 13): https://www.youtube.com/watch?v=pK_hZmBOmfk
6. Ultimate Airport Dubai Season 1 Episode 1 Dubai Airport Full Episodes (44 min 44): https://www.youtube.com/watch?v=i0hIduHJYOM
7. Ultimate Airport Dubai, Season-01, Episode-03 (42 min 57): https://www.youtube.com/watch?v=liQBijWOV0I&list=PL795uGupArFYmQYEssW5PW9h4Wsv0YRpX
8. Ultimate Airport Dubai - Season 2 Episode 4 (31 min 40): https://www.youtube.com/watch?v=pG2B0HHoalk&list=PL795uGupArFYmQYEssW5PW9h4Wsv0YRpX&index=2
9. Car Parking in Abu Dhabi NEW AIRPORT (1 min 33): https://www.youtube.com/watch?v=bTGx7ACyNsw
10. Inside Terminal 4: Terminal of Tomorrow (44 min 25): https://www.youtube.com/watch?v=llh52RktRxU
11. Navigating the Airport of Tomorrow (5 min 57) https://www.youtube.com/watch?v=0LNgoBUAYMU
12. Fly to the World's HIGHEST Airport - Daocheng Yading (16 min 11): https://www.youtube.com/watch?v=2Jm6fRYwPoY
13. Inside China's New $17 Billion Mega Airport - Beijing Daxing (15 min 49): https://www.youtube.com/watch?v=gBmr4pvivjs
14. Why US Airports Are So Bad (12 min 22): https://www.youtube.com/watch?v=5lL-Y-rgNr4&t=93s

Airport security

15. Airport of the Future (2 min 59): https://www.youtube.com/watch?v=m5axxLN1LYM
    Airports across the world are busier than ever. NEC has a vision of how facial recognition biometric technology, artificial intelligence and big data analytics can enhance and personalize the customer experience. Using NEC's facial recognition technology, travelers can significantly reduce boarding times and streamline operations at various touchpoints throughout the airport, including check-in, bag drop, customs and immigration.
16. What Are TSA Agents Looking for At the Airports? (5 min 6): https://www.youtube.com/watch?v=1MxMbwZwGWo
17. The Science of Airport Security (4 min 7): https://www.youtube.com/watch?v=bXNbe_jsoMg
18. Why airport security is so slow and how the TSA and airlines are trying to fix it (14 min 42): https://www.youtube.com/watch?v=LYiHQlDcH_g&t=601s

Heathrow Britain's Busiest Airport Season 1 to 6

Season 1 Episode 1 to 9

19. (E1) When Armed Police Are Called to Heathrow (46 min 07)
20. (E2) There's A Homeless Man Living in An Airport (46 min 11)
21. (E3) The Secret Behind Keeping Heathrow Running (46 min 32)
22. (E4) How Do They Run Britain's Busiest Airport? (45 min 09)

23. (E5) How to Build A Commercial Airplane in An Airport (45 min 52)
24. (E6) Inside Heathrow's Air Traffic Control (45 min 28)
25. (E7) A Passenger Is Charged with Assault in Heathrow Airport (45 min 35)
26. (E8) How Many Passengers Go Through Heathrow Every Day (45 min 36)
27. (E9) How Heathrow Deals with Large Cargo (45 min 18)

Airport cargo terminal related videos

28. Vision of the World's Best Cargo Terminal (4 min 44): https://www.youtube.com/watch?v=1r2slr7Ojec
29. Cargo Handling Systems (2 min 36): https://www.youtube.com/watch?v=0kyPXHarMIk
30. Why LAX's $30B Upgrade Isn't Enough to Fix the Airport's Traffic (7 min 11): https://www.youtube.com/watch?v=8ykQAAxaAGw

Airport passenger terminal and passenger handling related videos

31. Dubai airport travel with IRIS and Biometric Scan, No passport control control (2 min 24): https://www.youtube.com/watch?v=og-6sDfG--Q
32. The better way to board an airplane (2 min 35): https://www.youtube.com/watch?v=cMgarcFkXz4
33. Series 1 Type 1 Auto Bag Drop at Heathrow T5 (1 min 31): https://www.youtube.com/watch?v=2BRCZeXZUiI

Airport baggage handling system related videos

34. ICS Baggage Handling at San Francisco International Airport (3 min 28): https://www.youtube.com/watch?v=LVesQ07GrRY

Air traffic control related videos

35. The Birth of Air Traffic Control (2 min 33): https://www.youtube.com/watch?time_continue=5&v=Bah9txcZXrY&feature=emb_title
36. Is air traffic control the most stressful job in the world? (3 min 21) : https://www.youtube.com/watch?v=DljVJRiJe4U&feature=emb_rel_end
37. Going beyond digital towers - this is the digital airport (1 min 39): https://www.youtube.com/watch?v=6YyQSZBReIw&feature=emb_rel_end
38. 70 years of UK air traffic (3 min 10): https://www.youtube.com/watch?v=ZytXSawjFVU&feature=emb_rel_end
39. How Air Traffic Control Works (15 min 57): https://www.youtube.com/watch?v=C1f2GwWLB3k

COVID-19 and airport management related

40. What to Expect When You Fly in the Future (7 min 13): https://www.youtube.com/watch?v=pK_hZmBOmfk&feature=youtu.be

If you choose YouTube videos for your PDs: Choose one of YouTube videos **from 1 to 40** from the above list, summarize it at least one page with 12 fonts and single line spacing, and submit it to me through my email (seock.hong@unt.edu) before the due date. You could get one PD. If you choose a YouTube video longer than 20 minutes with at least two summary pages, it will be two PDs.

(Note) If the videos are not working, please let me know. However, if you type the title in the syllabus of the video, which is not working, you could get the video sometimes. For the other videos except for the above list, you could search any video-related airport and notify me in advance for your PD use.

Attachment 5: Abbreviations

ACI	Airports Council International
ACM	Airport Certification Manual
ACIP	Airport Capital Improvement Plan
ADAP	Airport Development Aid Program
ADS-A	Automated Dependent Surveillance Address
ADS-B	Automated Dependent Surveillance-Broadcast
AGL	Air Ground Level
AIP	Airport Improvement Plan
ALS	Airport Lighting System
AMA	Aircraft Movement Area
AOCNet	Airline Operations Center Network
AOA	Air Operations Area
AOPA	Aircraft Owners and Pilots Association
ARFF	Aircraft Rescue and Fire Fighting
ARS	Airport Radar Service Areas
ARTCC	Air Route Traffic Control Centers
ARTS	Automated Radar Traffic System
ASC	Aviation Safety Council, Republic of China
ASDE-X	Airport Surface Detection Equipment
ASRS	Automated Storage and Retrieval System
ATC	Air Traffic Control
ATCSCC	Air Traffic Control System Command Center
ATCT	Air Traffic Control Towers
ATM	Air Traffic Management
BAA	British Airport Authority
CAA	Civil Aeronautics Authority
CAB	Civil Aeronautics Board
CAPPS	Computer Assisted Passenger Pre-Screening System
CDM	Collaborative Decision Making
CIP	Capital Improvement Program
CTAS	Center Terminal Radar Approach Control
CUPPS	Common Use Passenger Process Systems
CUTE	Common Use Terminal Equipment
DCS	Departure Control System
DLAND	Development of Landing Areas for National Defense
DME	Distance Measuring Equipment
DWL	Deadweight Loss
ETD	Explosive Trace Detection
ETMS	Enhanced Traffic Management System
ETOPS	Extended Two-Engines Operations
eVTOL	electric Vertical Takeoff and Landing
FAA	Federal Aviation Administration
FAD	Final Agency Decision
FAAP	Federal Aid Airport Program
FANS	Future Air Navigation System
FBO	Fixed Base Operators
FERA	Federal Emergency Relief Administration
FSM	Flight Schedule Monitor
GARB	General Airport Revenue Bonds
GOB	General Obligation Bonds

GPS	Global Positioning System
IATA	International Air Transport Association
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LAAS	Local Area Augmentation System
LEED	Leadership in Energy & Environmental Design
MaaS	Mobility as a Service
MSL	Mean Sea Level
NAP	National Airport Plan
NAS	National Airspace System
NASP	National Airspace System Plan
NexCOM	Next-Generation Air-to-Ground Communication
NOTAMs	Notice to Airmen
NPIAS	National Plan of Integrated Airport System
NTSB	National Transportation Safety Board
NVOCC	Non-Vessel Owning Common Carrier
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
PFC	Passenger Facility Charges
PFD	Primary Flight Display
PFIC	Public Facility Improvement Corporation
PGP	Planning Grant Program
PVD	Para Visual Display
RAPCON	Radar Approach Control
REIL	Runway End Identifier Lights
RNAV	Area Navigation (Random Navigation)
RVSM	Reduced Vertical Separation Minimum
SES II+	Single European Sky second package plus
SESAR	Single European Sky ATM Research
SIDA	Security Identification Display Area
SITA	Société Internationale de Télécommunications Aéronautiques
SOEC	Substantial Ownership and Effective Control
SoIP	Service over Internet Protocol
TCAS	Traffic Alert and Collison Avoidance System
TRACON	Terminal Radar Approach Control
TRIP	Terminal Renewal and Improvement Program
TRSA	Terminal Radar Service Areas
TSA	Transportation Security Administration
TWIC	Transportation Worker Identification Credential
VASI	Visual Approach Glideslope Indicator
VDL	VHF Digital Link
VFR	Visual Flight Rules
VoIP	Voice into Data Packets
VOR	VHF Omnidirectional Range
WAAS	Wide Area Augmentation System
WECPNL	Weighted Equivalent Continuous Perceived Noise Level

Airport Code

ADS	Addison Airport
AMS	Amsterdam Airport Schiphol, The Netherlands
ANC	Ted Stevens Anchorage International Airport
ATL	Hartsfield-Jackson Atlanta International Airport

AFW	Fort Worth Alliance Airport
AUS	Austin-Bergstrom International Airport
BHX	Birmingham Airport, UK
BLI	Bellingham International Airport
BMI	Central Illinois Regional Airport at Bloomington-Normal
BOI	Boise Airport
BOS	Boston Logan International Airport
BRS	Bristol Airport, UK
BRU	Brussels Airport, Belgium
BUF	Buffalo Niagara International Airport
BWI	Baltimore/Washington International Thurgood Marshall Airport
CAN	Guangzhou Baiyun International Airport, China
CVG	Cincinnati/Northern Kentucky International Airport
DAB	Daytona Beach International Airport
DAL	Dallas Love Field Airport
DCA	Ronald Reagan Washington National Airport
DEN	Denver International Airport
DFW	Dallas/Fort Worth International Airport
DTW	Detroit Metropolitan Wayne County Airport
DXB	Dubai International Airport
ELP	El Paso International Airport
EWR	Newark Liberty International Airport
FTW	Fort Worth Meacham International Airport
GUM	Antonio B. Won Pat International Airport in Guam
HKG	Hong Kong International Airport, Hong Kong, China
HOU	Houston Hobby airport
HSV	Huntsville International Airport
IAH	George Bush Intercontinental Airport in Houston
ICN	Incheon International Airport
JFK	New York John F. Kennedy International Airport
KIX	Osaka-Kansai International Airport, Osaka, Japan
LAP	La Paz International Airport, Mexico
LAX	Los Angeles International Airport
LBB	Lubbock Preston Smith International Airport
LCY	London City Airport
LEX	Blue Grass Airport
LGA	New York LaGuardia Airport
LGW	London Gatwick Airport, UK
LHR	London Heathrow Airport, UK
LTN	London Luton Airport, UK
LTO	Loreto International Airport, Mexico
LUX	Luxembourg Airport
MAN	Manchester Airport
MCO	Orlando International Airport
MCT	Muscat International Airport, Oman
MDT	Harrisburg International Airport, Pennsylvania, USA – Small hub airport
MDW	Chicago Midway International Airport
MIA	Miami International Airport
MSP	Minneapolis−Saint Paul International Airport
MSY	New Orleans International Airport
MXP	Milan International Airport, Milan, Italy
NRT	Tokyo-Narita International Airport, Tokyo, Japan

OKC	Will Rogers World Airport, Oklahoma, USA – Small hub airport
ONT	Ontario International Airport
ORD	Chicago O'Hare International Airport
PDX	Portland International Airport
PEK	Beijing Capital International Airport, China
PHF	Newport News/Williamsburg International Airport, Virginia, USA – Non-hub airport
PHX	Phoenix Sky Harbor International Airport, Arizona, USA – Large hub airport
RKP	Aransas County Airport, Texas, USA - General aviation airport
PVG	Shanghai Pudong International Airport, Shanghai, China
SAN	San Diego International Airport
SAT	San Antonio International Airport, Texas, USA – Medium hub airport
SEA	Seattle-Tacoma International Airport
SFO	San Francisco International Airport, California, USA – Large hub airport
SIN	Singapore Changi Airport, Singapore
STN	London Stansted Airport
SZX	Shenzhen Bao'an International Airport, China
TPE	Taiwan Taoyuan International Airport, Taipei, Taiwan, China
TVC	Cherry Capital Airport, Michigan, USA – Non-hub airport
ZUR	Zurich Airport

Attachment 6: Airport Case Studies

Choose one of the Cases from 1 to 17. Once you choose the case from the list, download the file from the CANVAS, and refer to the following writing guidelines and the rubric.

Case Guidelines:
Case write-up: While each case is different, your case write-up should follow a logical progression and explain your position or thought process.

1. A case analysis is NOT a summary of events from the case. Rather, it is an analysis of a problem or key issue(s). You may need to include some background information to put the problem in perspective or to emphasize a point.
2. Length: There is no page limit; your case analysis should be as long as needed to address each point. However, you can expect your analysis to be at least 10 slides, including a cover page and an executive summary.
3. What to include in your case write-up? Your case write-up should answer the questions in the instructions above. As a minimum, you should include the following sections. You may include other sections if needed.
    a. Introduction to the airport, including its traffic statistics for the last seven years for both passengers and cargo, as well as year-over-year (YoY) changes and compound annual growth rate (CAGR).
    b. Problem Statement
    c. Key Issues
    d. Alternatives
    e. Decision Criteria
    f. Recommendation(s)

Executive Summary: The Executive Summary is a challenge if you have not written one before. The executive summary should be written after you have completed the case write-up, even though it is the second page of your report (with the first page being the cover page). Why do you write the executive summary last? Because it is a brief and concise summary of your case analysis. A decision-maker should be able to read the executive summary and have enough information to understand the problem, issues, alternatives, the recommendation(s), and the reasons for your recommendation(s). If needed, the decision-maker can refer to your analysis for more details, but it should not be necessary.

1. What makes a *good* Executive Summary?
    a. It does not exceed ONE PAGE.
    b. It is a stand-along document.
    c. It includes a summary of all the information.
    d. The reader or decision-maker should be able to completely understand the issue or problem being considered, the factors that impact the decision, the alternatives available for consideration, your recommendation(s), and the criteria used to arrive at your recommendation (this is your rationale).

2. What makes a *bad* Executive Summary?
    a. It is too long.
    b. It is simply an introduction to the issue or problem.
    c. It does not give the decision-maker sufficient information to make an informed decision.
    d. It does not make a recommendation.
    e. It does not explain why the recommendation is the preferred outcome.

Writing Guidelines: The following guidelines will help improve your slides.

1. Conciseness and Clarity: The PowerPoint slide should be clear and concise. Avoid long-winded or vague descriptions. Steer clear of obscure vocabulary and complicated discussions. Use headings and subheadings to clearly separate different sections of your report.
2. Consider your audience: Are you writing a slide for your boss, an outside agency or group, or for general public consumption? The audience should shape the tone and wording. It is better to lean toward more formal tones, even for your boss. That way, you will not have to re-write if your boss wants to forward your report outside the organization.
3. Grammar and Spelling: Always important. There are many reference websites that explain the most common mistakes in grammar and spelling. A report riddled with grammar and spelling errors is unprofessional.
4. Tone: Professional and technical writing is formal. This includes word choices. We generally do not speak using proper grammar. That does not mean our writing should follow suit. You should avoid colloquialisms and slang. For example, instead of saying "the project did not work out so well," write "the project failed because..." or "the project was not successful."
5. Vague Pronouns: Do not be ambiguous with your pronouns. Do not use "it" or "they" unless it is very clear to what or to whom you are referring.
6. Verb tense: Most often, you will be writing in the past tense when writing about events that occurred in the past. When evaluating a current project, it is acceptable to use present or even future tense.
7. Headings and Sub-headings: Use headings to separate the main topics and organize your document. Heading such as Executive Summary, Alternatives, Analysis, Lessons Learned, Conclusions, Recommendations, etcetera.
8. Modifiers: Use proper modifiers: Instead of using "the biggest problem," which implies the size, use "the main problem" or "the most significant problem" which implies priority or level of importance.

Deliverables: The deliverable is PowerPoint slides include the followings. Graded Components (See rubric on the next page for presentation slides and see pages 32 and 33 for the presentation guidelines):

1. The cover page.
2. The executive summary (1-slide): The executive summary should address your overall recommendation and support with facts from your analysis.
3. The case write-up, which includes the following:
   a. Introduction to the airport, including recent information and traffic data for both passengers and cargo, with at least seven years of data and YoY changes with CAGR.
   b. Answer each question above if the case asks you to answer.
   c. Summary of the case, ensuring you understand (minimum nine slides).
   d. Include your recommendation based on your knowledge of the airport or related topics.

Case Study Analysis for PowerPoint slides Rubric

Learning Outcome	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations	Awarded/ Possible Points
	≥ 90%	**≥ 80%**	**≥ 70%**	**< 70%**	
Writing: Executive Summary	Problem, issues, and recommendation included; short and concise (1 page); decision can be based on executive summary alone; recommendation clearly stated with supporting cost/decision data	Problem and recommendation clearly stated; summarizes analysis; recommendation identifies costs; decision would require review of supporting material contained in write-up	Problem and recommendation stated; executive summary not well-organized; summarizes material presented in case rather than analysis performed; recommendation not supported with cost/decision data	Provides problem and recommendation; summary repeats material contained in case; limited support for recommendation; no cost/decision data provided	**/5**
	(5-4.5 points)	**(4 points)**	**(3.5 points)**	**(< 3.5 points)**	
Writing: Problem Statement	Problem explicitly and concisely stated; factors driving the problem identified; identifies root problem; explains the significance of the problem, links the underlying problem to any "symptoms" visible to management or other stakeholders, and makes compelling argument as to why this problem requires action	Problem clearly stated but little discussion of factors driving the problem in the case. Case write-up identifies root problem and explains the significance of the problem. Linkage to symptoms not clearly developed. The argument for action present but may not be a compelling "call to action."	Problem not well stated or unclear; little to no discussion of factors driving the case problem. Case write-up tangentially addresses root problem--symptoms rather than root problem receiving attention. Some explanation presents of how problem is linked to symptoms or outward manifestations, but focus on symptoms precludes clear linkage	Problem not well stated or missing; driving factors not identified or simply listed without explanation. Case fails to identify root problem and addresses obvious "symptoms" or manifestations of the problem. No linkage of underlying problem to other problems or symptoms. No argument made for action	**/10**
	(10 - 9 points)	**(8 points)**	**(7 points)**	**(< 7 points)**	

Learning Outcome	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations	Awarded/ Possible Points
	≥ 90%	**≥ 80%**	**≥ 70%**	**< 70%**	
Analysis and Critical Thinking: Problem Set (20 points each). **Analysis of Cost/Decision Variables**	Each problem set is addressed. Cost and decision variables are thoroughly evaluated. Very limited to no errors present in any calculations. The case goes beyond the information contained in the case and incorporates other course material or introduces outside materials when performing the analysis.	All problems are addressed but do not go into significant depth. Cost or decision variables are not fully evaluated. Some outside material used to support analysis. Eighty percent of the appropriate calculations properly performed.	The analysis is superficial and does not move beyond obvious points. No material outside case used to support analysis. Errors in calculations detract from the accuracy of the analysis.	Analysis not clearly organized. Analysis lacks depth and addresses only obvious issues or symptoms in the case. Half of the calculations correctly performed. Minimal information from the case used to support analysis.	**/50**
	(50 - 45 points)	**(44 - 40 points)**	**(39 - 35 points)**	**(< 35 points)**	
Writing and Critical Thinking: Stating and Justifying Recommendation	Recommendation clearly and concisely stated; results obtained through analysis and comparisons used to support final recommendation; cost and other statistical information used to support the recommendation and to draw a compelling conclusion. Effect on stakeholders, service, and performance clearly discussed and integrated into justification.	Recommendation clearly stated; analysis linked to recommendation but little to no comparison of alternatives--including costs, other statistical data, or performance; effect on stakeholders identified but not explained; minimal use of numeric or statistical data used in supporting the recommendation.	Recommendation stated but not well-justified or defended; analysis used only to support recommendation; no comparison of alternatives; effect on stakeholders receives an only cursory mention; use of numerical or statistical data missing, not well explained, or not successfully integrated into the recommendation.	The recommendation not clearly stated or missing; little to no support provided for the final recommendation; comparison between alternatives missing or superficial; analysis not used to support recommendation; effect on stakeholders missing or lacking depth.	**/10**
	(10 – 9 points)	**(8 points)**	**(7 points)**	**(< 7 points)**	
				Total Score	**/75**

Attachment 7: Airport Data and Strategy Analysis Project

Learning Objectives

1. To explore the airport business model with operational and financial statistics.
2. To identify the core competencies of the airport and compare them with competitors.
3. To understand airport management, organization, and strategy.
4. To understand airports and neighboring cities.
5. To find out the concept of an airport city.
6. To analyze the airport strategy using SWOT analysis.
7. To learn data analytics and presentation skills.

Description: This case study is an individual effort. This project examines airport activities and business models with the choice of an airport located in North America, South America, Asia-Pacific, Europe, Middle East, Africa, etc. (Please avoid duplicates with other students.). The case has two parts; (1) data collection and presentation, (2) updating the data collection and doing a SWOT analysis. The project is to develop the strategies and policy of the chosen airport, including the various aspects of airport operations, with an operational /financial data analysis and strategies analysis.

When you select an airport, please check below.

1) Choose the airport based on how you could get enough data for the analysis. Does it mean that the airport opens enough materials for the data collection?
2) Choose an airport to avoid duplicates with other students and an airport that you choose already for the airport case study.
3) If you choose a foreign airport, check the language of the materials you can read.

A. Instructions for the data collection [100 points including 25 points for the initial data collection 25 points for the final data collection (in the format of presentation slide using PowerPoint slide, and 50 for the presentation]: The case analysis should answer the following questions using at least seven years' data for operational and financial data:

- Initial data submission is following 1, 2, and 5.
  1. **Operational data and analysis**: Make tables and draw graphs of the passenger, cargo, and aircraft movement at least for the past seven years with annual growth rate (CAGR) and seven years average growth rate.
  2. For operational data, collect domestic, international and combined domestic, and international.
  3. Explain the traffic trends using operational data using make-your-own tables and graphs and statistical methods.
  4. List of carriers flying to the airport and what aircraft the air carriers use and analyze the carriers with market share rate.
  5. **Financial data**: Analyze financial statements (Income statement and balance sheet) with total revenue, operating income and net income (net position) from income statement with operating income margin and net income margin; Total assets, current assets, total liabilities, and current liabilities from balance sheet at least for the past seven years with current ratio (=Current assets over current liabilities).
  6. Analyze major expenses and major revenue with aeronautical, non-aeronautical revenues, and real estate revenue.
  7. Airline charging system.
  8. (Optional) Calculate financial performance such as ROA, ROI, C2C, etc. (at least for the past seven years).
  9. (Optional) EPS (Earning per share), accounts receivable, and accounts payable from balance sheet.
  10. For further information for data collection: See page 33, and etc.

- **Do not copy and paste the source material make your own tables.**
- **Make the report using PowerPoint with data analysis and upload to CANVAS.**
- The initial data submission is for discussion in class for more detail's analysis of the airport and next submission.

Deliverables for initial data collection (presentation slide): Have to submit separately for airport data for the last seven years using **PowerPoint slides and Excel files**. PowerPoint slides are the primary, and Excel files will be the secondary to grade. Graded Components (See the rubric for specific guidelines):

1. Cover Page: Include your name, course name, airport name, and date.
2. Executive Summary on data analysis
3. Data slides with table and figure;
   - One slide for passenger data (international, domestic, and total),
   - One slide for cargo data (international, domestic, and total),
   - One slide for aircraft movement data (international, domestic, and total),
   - One slide for income statement data (Total revenue, operating revenue, and net income),
   - One slide for balance sheet data (Total assets, current assets, total liabilities, and current liabilities)
4. References

Deliverables for final data collection (presentation slide): Have to submit separately for airport data using **PowerPoint slides and Excel files**. PowerPoint slides are the primary, and Excel files will be the secondary to grade. Graded Components (See the rubric for specific guidelines):

1. Cover Page: Include your name, course name, airport name, and date.
2. Executive Summary on data analysis
3. Data slides with table and figure;
   - One slide for passenger data,
   - One slide for cargo data
   - One slide for aircraft movement data
   - Traffic trend (analysis of passenger, cargo, and aircraft movement data). You try to see any specific insights into changes or shifts in traffic patterns. This can include current metrics, anomalies, or other relevant information, enhancing your analysis with other statistical methods (optional).
   - Create a slide that lists the dominant carriers and their market shares over the past seven years. This should include passenger and cargo data calculations, segmented into international, domestic, and total figures for each airline. If obtaining seven years of data is impossible, data for just one year will be acceptable.
   - One slide for the dominant aircraft with market share (If you can't find the dominant aircraft at the airport, you could get the proxy data using the dominant airlines' aircraft types.)
   - One slide for income statement data, including operating and net income margin rate,
   - One slide for balance sheet data
   - One slide for expenses (labor, depreciation & amortization, interest, etc.)
   - One slide for revenues (aeronautical-, non-aeronautical-, and real estate revenue)
   - One slide for the airline charging system
4. Conclusion
5. References

B. Instructions of the report for SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis of the airport [160 points including 60 points for the presentation slide and 100 for the presentation]: This case study is an individual effort. This part requires doing SWOT analysis and answer the following questions using financial statements in the annual report, master plan airport economic impact study.

1. Update operational, financial data adding trend line and other statistical methods.
2. Analyze the data you presented using statistical methods, such as forecasting the traffic using regression analysis.
3. Do the SWOT analysis use follow information?
4. Airport strategies include routes (domestic/international routes, cities, countries) with photos (or maps) including top ten (or five) busiest international, domestic, and cargo routes.
5. Infrastructure developments plan.
6. Find out the airport's vision, mission, business goal, key results of recent years, etc.
7. Explain airport category based on NPIAS classification for U.S. airports or ACI classification for European and Asian airports
8. Explain on an organization chart and board member (who appoint the board member).
9. Explain the ownership of the airport.
10. Describe general aspects of the airport airside and landside, including runway and boarding gate numbers, runways and terminal shape (structure), access roads, public transportation access, etc.
11. Airport floor chart (or map).
12. Explain commercial development in the area.
13. How to develop an airport's surrounding area (hinterland or airport city)?
14. What kind is an airline ratemaking methodology applied? Airport charges and fees.
15. Explain airport innovation activities, including autonomous vehicles at airside or landside, eVTOL (electric vertical take-off and landing), etc.

Refer to these references for your example and search the latest materials:

Atlanta International Airport

https://www.atl.com/business-information/investor-relations/
http://www.atl.com/about-atl/
http://www.atl.com/about-atl/atl-factsheet/
https://atltransit.ga.gov/wp-content/uploads/2021/07/ATL-Annual-Report-and-Audit-2020.pdf
http://www.atl.com/wp-content/uploads/2020/02/ATL-Traffic-Report-Dec-2019.pdf
http://www.atl.com/docs/BusinessInformation/Reports/2012%20Comprehensive%20Annual%20Financial%20Report%20(CAFR).pdf
http://www.atl.com/wp-content/uploads/2020/01/FY19-Comprehensive-Annual-Financial-Report.pdf
http://www.atl.com/docs/BusinessInformation/Reports/FY15_Comprehensive_Annual_Financial_Report.pdf

Chicago O'Hare International Airport: Annual Comprehensive Financial Report

https://www.chicago.gov/content/dam/city/depts/fin/supp_info/CAFR/2023CAFR/OHare2023.pdf;
https://www.chicago.gov/content/dam/city/depts/fin/supp_info/CAFR/2022CAFR/OHare2022.pdf

Chicago O'Hare International Airport: Basic Financial Statements

https://www.cityofchicagoinvestors.com/ohareairportbonds/documents/downloads/i1411?docTypeId=2433

DFW. *Dallas-Fort Worth International Comprehensive Annual Financial Report* (https://www.dfwairport.com/business/about/investors/).

DFW. *Traffic Statistics* (https://www.dfwairport.com/business/about/stats/).

DFW ESG report (2020) https://online.fliphtml5.com/rfyxe/fdvb/#p=1

Hong Kong International Airport YouTube Videos.

Places - Lost in Time: Kai Tak International Airport (23 min 42):
https://www.youtube.com/watch?v=bprGbmSM2UQ
Hong Kong International Airport Master Plan 2030 (9 min 30):
https://www.youtube.com/watch?v=Qylm5kptZ5c

MAC (2017). 2017 Annual Report, Metropolitan Airports Commission (https://www.metroairports.org/Metroairports/media/Media/Documents/Annual-Report-2017.pdf).

MSP (2017). Minneapolis-St. Paul International Airport: Economic Impact of its Operation 2016 (https://www.mspairport.com/sites/default/files/2017-09/MSP%20Economic%20Impact%20Study%202016%20FINAL%20DRAFT%20REPORT%20(14Sep2017).pdf).

SFO (YouTube video): Inside San Francisco's $5BN Airport Upgrade (8 min 41): https://www.youtube.com/watch?v=6PXM4WwzNBw

Tampa International Airport
https://www.tampaairport.com/investor-relations
http://www.tampaairport.com/facts-statistics-financials

Miami International Airport:
https://www.miami-airport.com/annual_report.asp
https://www.miami-airport.com/airport_stats.asp

Deliverables for the report (presentation slide): Have to submit separately for airport data using PowerPoint slides and Excel files. PowerPoint slides are the primary, and Excel files will be the secondary to grade. See the graded Components for PowerPoint slide (page 28) and presentation (pages 35 to 36).

1. Cover Page: Include your name, course name, airport name, and date.
2. Executive Summary
3. Case write-up including data

For this project, you could get related data, reports, and academic articles through Google using keywords, such as airport name (ex. Fort Worth Alliance airport), annual report (ex. DFW annual report, MSP annual report), economic impact (ex. New Jersey airport economic impact study).

Due date: See class schedule on pages 9 and 10**.**

Checklist for the presentation and slide submission of the airport data collection.

For your data collection, please check the followings.

1. Do you collect the last seven years' annual airport report for data collection?
2. Are you check the financial statements from the annual report?
3. Are you collect the airport master plan?
4. Have you checked Wikipedia about the airport?
5. Are you checking other acquirable materials for the airport?

Once you collect the materials, please prepare the PowerPoint.

1. Are you collecting the last seven years' passenger data?
   a. Are you collecting the passenger data for domestic, international, and total (domestic + international)?
   b. Are annual year-over-year (YoY) changes on percent and seven- or six-year average YoY?
   c. When you calculate the average YoY changes, you should have calculated it with geometric mean instead of arithmetic mean. The excel function key for geometric mean is "GEOMEAN," for example, "geomean (numbers or cell range)." The equation for the geomean is $GM_{\bar{y}} = \sqrt[n]{y_1 y_2 y_3 \cdots y_n}$.
   d. Please see the web link to calculate YoY and Geomean in Excel
      YoY: https://www.patriotsoftware.com/blog/accounting/year-year-growth-calculate/).
      Geomean: https://exceljet.net/functions/geomean-function.
2. Are you collecting the last seven years' cargo data with a unit (tonnage or pound)?
3. Are you collecting the passenger data for domestic, international, and total (domestic + international)?
4. Are annual year-over-year (YoY) changes on percent (%) and seven- or six-year average YoY?
5. Are you collecting the last seven years' aircraft movement data?
6. Are you collecting the passenger data for domestic, international, and total (domestic + international)?
7. Are you calculating annual year-over-year (YoY) changes on percent (%) and seven- or six-year average YoY?
8. Are you collecting the top five or ten airlines at the airport?
9. Top five (or ten) airlines in terms of passengers (domestic, international, and total)
10. Top five (or ten) airlines in terms of cargo (domestic, international, and total)
11. Are you collecting which aircraft are dominant at the airport?
12. Are you collecting the last seven years' revenues?
13. What are significant revenues?
14. What is the ratio of aeronautical, non-aeronautical, and other revenues?
15. Are you calculating annual year-over-year (YoY) changes on percent and seven- or six-year average YoY for (1-a) and (1-b)?
16. Are you collecting the last seven years' expenses?
17. What kind of expenses (labor, depreciation, etc.)?
18. What is the ratio of aeronautical, non-aeronautical, and other revenues?
19. Are you calculating annual year-over-year (YoY) changes on percent and seven- or six-year average YoY for (1-a) and (1-b)?
20. Are you calculating or collecting the operating and net income with the ratio (%)?
21. Is the airport loose to earn money? How much? Why earn or lose?
22. Are you collect the last seven years' assets, current assets, liability, and current liability?
23. Are any specific changes, such as sudden increases or decreases, except COViD-19 impacts in 2020 and 2021? If so, why?
24. Are you put the citation for all of your data collection?
25. Do you put the cover page with your name, this class name, and the professor's name?

26. Are you put the executive summary on the first page (after the cover page)? The executive summary explains your data collection briefly.
27. Are you put the references at the end of your PowerPoint presentation?

Checklist for the final presentation and submission of the airport research project.

For your final presentation, please check the followings.

1. Do you refer to the checklist about data collection mentioned on the previous page?
2. Do you have the annual report and master plan of your airport?

Once you collect the materials, please prepare the PowerPoint.

1. Are you updating operational and financial data adding trend lines and other statistical methods?
2. Analyze the data you presented using statistical methods, such as forecasting the traffic using regression analysis.
3. Do the SWOT analysis of your airport.
4. Who are the owners and board members of the airport?
5. Who nominates the board member?
6. What is the airport category based on NPIAS classification for U.S. airports or ACI classification for European and Asian airports?
7. Are you include the airport organization chart?
8. Are you including the airport's vision, mission, business goal, key operational results of recent years, etc.?
9. Are you have the photos of the airport?
10. Do you include runway configuration with a photo that adds direction, length, and width?
11. Are you putting the airport airside and landside information, including boarding gate numbers, runways and terminal shape (structure), access roads, public transportation access, etc.?
12. Are you have a piece of information on commercial development in the airport's surrounding area (hinterland or airport city) with photos?
13. Are you have an airport floor chart (or map)?
14. Include the airport network (domestic/international routes, cities, countries) with photos (or maps)?
15. Are you include the top ten (or five) busiest international, domestic, and cargo routes?
16. Are you have an infrastructure development plan?
17. What kind is an airline ratemaking methodology applied? Airport charges?
18. Are you have a piece of information on airport innovation activities, including autonomous vehicles at the airside or landside, eVTOL (electric vertical take-off and landing), etc.?

Airport Project Presentation Rubric

Learning Outcome	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations	Awarded/Possible Points
	≥90%	≥80%	≥70%	<70%	
Delivery	Holds attention of entire audience with the use of direct eye contact, seldom looking at notes. Speaks with in fluctuation in volume and inflection to maintain audience interest and emphasize key points. **(20-18 points)**	Consistent use of direct eye contact with audience, but still returns to notes. Speaks with satisfactory variation of volume and inflection. **(17-16 points)**	Displays minimal eye contact with audience, while reading mostly from the notes. Speaks in uneven volume with little or no inflection. **(15-14 points)**	Holds no eye contact with audience, as entire report is read from notes. Speaks in low volume and/ or monotonous tone, which causes audience to disengage. **(< 13 points)**	**/20 (20% of total score)**
Content/ Organization	Demonstrates full knowledge by answering all class questions with explanations and elaboration. Provides clear purpose and subject; pertinent examples, facts, and/or statistics; supports conclusions/ideas with evidence. **(30-27 points)**	Is at ease with expected answers to all questions, without elaboration. Has somewhat clear purpose and subject; some examples, facts, and/or statistics that support the subject; includes some data or evidence that supports conclusions. **(26-24 points)**	Is uncomfortable with information and is able to answer only rudimentary questions. Attempts to define purpose and subject; provides weak examples, facts, and/ or statistics, which do not adequately support the subject; includes very thin data or evidence. **(23-21 points)**	Does not have grasp of information and cannot answer questions about subject. Does not clearly define subject and purpose; provides weak or no support of subject; gives insufficient support for ideas or conclusions. **(< 20 points)**	**/30 (30%)**
Enthusiasm/ Audience awareness	Demonstrates strong enthusiasm about topic during entire presentation. Significantly increases audience understanding and knowledge of topic; convinces an audience to recognize the validity and importance of the subject. **(30-27 points)**	Shows some enthusiastic feelings about topic. Raises audience understanding and awareness of most points. **(26-24 points)**	Shows little or mixed feelings about the topic being presented. Raises audience understanding and knowledge of some points. **(23-21 points)**	Shows no interest in topic presented. Fails to increase audience understanding of knowledge of topic. **(< 20 points)**	**/30 (30%)**
Handling of questions	Questions answer with evidence obtained from the research of the topic. **(10 points)**	Questions are answered, but may not be fully supported with evidence obtained from the research. **(9 points)**	Questions are not fully answered. **(8 points)**	No effort is attempted to answer questions. **(< 7 points)**	**/10 (10%)**
Good Use of Time	Just the right amount of information is included in the presentation to take full advantage of	The presentation is within ± 5 minutes of the allotted time.	The presentation is within ± 5 minutes of the allotted time.	The presentation is within ± more than 10 minutes of the allotted time.	**/10 (10%)**

	the time allotted for the presentation. The presentation is neither too fast nor too slow. **(10 points)**	The presentation is neither too fast nor too slow. **(9 points)**	The presentation is either too fast, and too much information was attempted for the allotted time. Alternatively, too little information was presented. **(8 points)**	**(< 7 points)**	
				Total Score	**/100 (100%)**

Financial Measures to use for Data Collection

Financial Measure	Focus	Calculations	Example: Li & Fung Ltd (2011) - Millions of USD
Revenue growth	Percentage growth in revenue	Change in revenue / previous years revenue	(20030.3-15912.2) / 15912.2 = 0.2588 or 25.9%
% of cost goods sold	Percentage of revenue absorbed by cost of goods sold	Cost of goods sold / revenue	17043.9 / 20030.3 = 0.8509 or 85.1%
Gross profit margin	Percentage of gross profit per unit of revenue	(Revenue – cost of goods sold) / revenue	2986.3 / 20030.3 = 14.9%
% Selling, general & administrative (%SG&A)	Percentage of revenue absorbed by SG&A	(Selling, general & administrative) / revenue	2192.1 / 20030.3 = 10.9%
Operating income margin	Percentage of operating income per dollar of revenue	Operating income / revenue	830.2 / 20030.3 = 4.1%
Days sales outstanding or average collection period	Number of days it takes to collect credit revenue from the time of revenue	Account receivable / (revenue/365 days)	2004.5 / (20030.3 / 365) = 36.53 days
Days in inventory (related inventory turnover)	Number of days of operations held in inventory	Inventory / (cost of goods sold/365 days)	1035.8 / (17043.9 / 365) = 22.18 days
Days purchase outstanding	Number of days a company takes to pay trade creditors	Account payable / (cost of goods sold/365 days)	2337.0 / (17043.9 / 365) = 22.18 days = 50.05 days
Cash operating cycle	Number of net days from this time a dollar is invested in inventory to the time it is converted back to cash with profit (hopefully)	Days in inventory + Days in sales outstanding – days purchase outstanding	36.53 + 22.18 – 50.05 = 8.66 days
Fixed assets to revenue	Amount invested in fixed assets per dollar of revenue	Fixed asset / revenue	10920.4 / 20030.3 = $0.55
Revenue to capital	Dollars of revenues generated for each dollar in capital	Revenue / capital	20030.3 / 7408.1 = $2.70
Economic profit	Profits from operations after paying total cost	Net operating profit after tax-capital charge	681.2 – (7408.1 * 0.11) = -$133.69
Return on investment (capital)	Percent return on employed capital	Net operating profit after tax / capital	681.2 / 7408.1 = 9.2%
Return on asset	Company's efficiency	Net earnings / total asset	681.2 / 10920.4 = 6.24%
Gross Margin Return on Working Capital	To explore their inventory investment and the return on that investment in relationship to their Cash Conversion Cycle.	①Calculate Working Capital Turnover=365/C2C ②Calculate GMROWC= Working Capital Turnover x GM%	①42.15 Turnover ②42.15 x 14.9=628.035

Attachment 8: Research Project Outline for Impact of New Technologies

Outline: This study aims to create a Global Technological Citizenship (GTC) curriculum for university students, focusing on automated driving technology. The curriculum aims to foster competencies in understanding the social benefits and harms of advanced technologies and to ethically fulfill their rights and responsibilities. The curriculum will be developed and implemented in universities across the US, Japan, Indonesia, and Vietnam, collaborating with overseas researchers in education, international politics, and transportation engineering.

Purpose of this research: Automated driving and robot technologies rapidly transform society, presenting opportunities and challenges. While these advanced technologies may increase convenience, they also raise concerns about social vulnerability and the degeneration of future generations. This study challenges the development of a global technological citizenship education curriculum that focuses on understanding the social benefits and harms of advanced technologies, implementing reconciliation measures, and fulfilling one's rights and responsibilities based on an ethical perspective and dialectical risk communication.

Significant of Research: The research aims to develop a global educational curriculum for university students to predict and discuss the merits and demerits of technological development, fostering a sustainable society. This international joint research project focuses on developing a global technological citizenship education curriculum and discussing the Japanese version with overseas collaborators. The goal is to create a sustainable society by integrating technology and humankind, particularly in the context of automated driving technology. Dialectical risk communication is crucial for discussing the merits and demerits of uncertain technological development.

1. Discuss new technology, including drones, robots, eVTOL, and automated (or autonomous) vehicles, regarding general usage, safety, etc.
2. Find at least two case to use at airport. When you find a new case, do not include it if I have already included it in my slides.
3. Identify up to three to five advantages and disadvantages regarding new technologies in terms of the following topics.
   Accessibility: social participation and opportunities for activities
   Safety: the prevention of unintentional harm)
   Security: the protection against intentional threats
4. **Please upload it to CANVAS.**

Deliverables: Graded Components (See the following rubric): Please submit one PowerPoint file per team (the same team as in Team Project I). The presentation should include the following slides, along with a cover page and references:

1. Cover Page: Include your name.
2. Two examples explaining the airport use case with photos (one slide for each example).
3. Conclusion: One slide outlining three to five advantages and One slide the disadvantages of the new technologies as a group.
4. References: One slide listing all the references you used. Please ensure that all slides are clear and well-organized.

References from YouTube

Automated (Autonomous) Vehicles

1. Automated Guided Vehicles (AGV) for baggage and cargo ULDs: https://www.youtube.com/watch?v=DqhkuLvPFIM
2. Bagxone by Alstef Group: https://www.youtube.com/watch?v=kbnr7MfvqCk

3. EasyMile- Fully Autonomous Shuttle Fleet at Terhills: https://www.youtube.com/watch?v=si7oIbyOK4c
4. EasyMile- NUSmart Shuttle (EasyMile EZ10) Begins Passenger Service Trial at NUS: https://www.youtube.com/watch?v=KLhlhnYnMt0
5. Navya, Self-Driving Made Real: https://www.youtube.com/watch?v=WwOr0fAncUE
6. Navya autonomous shuttle deployed at Texas A&M: https://www.youtube.com/watch?v=TnsmrqTO0hk
7. NAVYA – The autonomous shuttles of Paris airports: https://www.youtube.com/watch?v=TAAm-wLInkE
8. Self-Driving Tech Companies Aren't Developing Fast Enough, WSJ Tech News Briefing: https://www.youtube.com/watch?v=p-gHQLbDSRc
9. WHILL: https://youtu.be/RxYd6o50Jhg

Drones and eVTOL

10. Alphabet's Drone Delivery Business Cleared for Takeoff (3 min 16): https://www.youtube.com/watch?v=KoprPZUWpIU
11. Google Drones Can Already Deliver You Coffee In Australia (5 min 48): https://www.youtube.com/watch?v=prhDrfUgpB0
12. First prime air delivery (2 min 5): https://www.amazon.com/Amazon-Prime-Air/b?node=8037720011
13. Is the Flying Car Really Happening? (2min 41): https://www.youtube.com/watch?v=GWF1-rNnFdc&list=PLqq4LnWs3olXc_iWHqvVRew8RZsTzTAGq&index=10
14. Why Flying Car Startups Are Seeking a Quiet Takeoff (4 min 42): https://www.youtube.com/watch?v=FYwwwPSwQX8
15. Vertical, Lilium, Wisk & More: Where Will These Five eVTOL Companies Be in Four Years? (4 min 34): https://www.youtube.com/watch?v=bc7ArFBJ2UU

AI and Data science

16. AI and Data Science in Aviation Industry: 5 Real-life Use Cases (11 min 1): https://www.youtube.com/watch?v=D8NlYPtPgwA
17. BCG and KLM Bring AI to Life in Airline Operations (2 min 29): https://www.youtube.com/watch?v=Tkn0Q-lKTP0

The previous research activities related to this research theme

Fujiwara, A., Nakaya, R. (2020), Development and Verification of Technological Citizenship Education - A Case Study of Automatic Driving, Hiroshima University Working Paper. https://home.hiroshima-u.ac.jp/afujiw/ja/home-2/.

Fujiwara, A., Nakaya, R. (2022), Development and Verification of Curriculum for Technological Citizenship Education - Fostering Technological Ethics and Dialectical Risk Communication Skills. *Journal of Civil Engineering and Planning* 78(6), II_56-II_70. https://doi.org/10.2208/jscejipm.78.6_II_56.

Hong, S.-J., Purtell, C., Chung, J.-Y., Choi, D. (2024). How new technology impacts airport's service quality and behavioral intentions. *Journal of Travel & Tourism Marketing* 41(2).235-251. https://doi.org/10.1080/10548408.2024.2311329

Purtell, C., Hong, S.-J., Hiatt, B. (2024), Bibliometric Analysis on the Advanced Air Mobility and Drones. *Journal of Air Transport Management* 116, 102569. https://doi.org/10.1016/j.jairtraman.2024.102569

Research Project Rubric

Learning Outcome	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations	Awarded /Possible Points
	≥90%	≥80%	≥70%	<70%	
Originality & Clear Definition of Purpose	The presentation is original and interesting. The audience is engaged. The main topic is clearly provided, along with an overview of the presentation. Explains why the topic is important. **(14-13 points)**	The topic may not be original but is made interesting for the audience. The main topic is clearly provided, along with an overview of the presentation. Explains why the topic is important. **(12-11 points)**	The topic may not be original but is made interesting for the audience. The main points are not clearly identified, and it is hard to understand the purpose of the presentation. Explains why the topic is important. **(10 points)**	The presentation has difficulty holding the audience interest. The most important points are not clearly identified, and it is difficult to understand the purpose of the presentation. It is not clear why the topic is important. **(< 9 points)**	**/14 (20% of total score)**
Knowledge (Innovative view and global aspects)	Clearly identifies the key points, issues, or challenges with innovative and global aspects. Provides ample supporting detail to capture the key points. **(21-19 points)**	Clearly identifies the key points, issues or challenges with innovative and global aspects. Provides some supporting detail to capture the key points. **(18-17 points)**	The key points, issues, or challenges are not clearly identified and must infer. Includes some details but includes extraneous or loosely related material. **(16-14 points)**	Includes inconsistent or few details that may interfere with the meaning of the critical issues and no apparent attempt to communicate concisely and directly. **(< 13 points)**	**/21 (30%)**
Logical/critical thinking (Ethical value, Responsible plan/action)	Using formal deductive logic, identify and evaluate the truth of statements and their connections while remaining analytical. Provides sufficient evidence to support the findings. **(21-19 points)**	Provides sufficient evidence to support the findings. Finding or way ahead is not fully formed. **(18-17 points)**	Findings are not surprising and as one would expect. Provides limited evidence to support the findings. Finding or way ahead is not fully formed. **(16-14 points)**	No attempt is made to provide identification and evaluation. The finding does not include a logical or critical way ahead. **(< 13 points)**	**/21 (30%)**

Writing and Communication : Spelling and Grammar	Consistently follows the rules of standard English **(7-6 points)**	Follows the rules for standard English. Includes a few typographical or spelling errors with no grammatical errors. **(5 points)**	Does not follow the rules for standard English. Includes a few typographical errors with minor grammatical errors Inaccuracies make the abstract moderately difficult to read. **(4 points)**	Does not follow the rules for standard English Several spelling and major grammatical errors. Inaccuracies make the abstract very difficult to read. **(< 3 points)**	**/7 (10%)**
Format	Note pages include sufficient supporting material so that a reader would understand the main points and conclusions without having heard the presentation. Full citations included in the note pages. The presentation is divided equally among team members. **(7-6 points)**	Note pages include sufficient supporting material so that a reader would understand the main points and conclusions without having heard the presentation. Full citations included in the note pages. The presentation is not divided equally among team members. **(5 points)**	Note pages provide some of the supporting material, but not enough for a reader to fully understand all of the points from the oral presentation. Citations are incomplete in the note pages. The presentation is not divided equally among team members. **(4 points)**	Limited attempt to include supporting material in the note pages. A reader could not fully understand all of the points without the benefit of the oral presentation. Citations are missing or too incomplete to identify the source in the note pages. The presentation is not divided equally among team members. **(< 3 points)**	**/7 (10%)**
				Total Score	**/70 (100%)**