LGAV 3130: Air Cargo Planning & Control

Spring 2026, MW 12:30 PM – 1:50 PM, BLB 140

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

Analysis of air cargo systems; the relationship between air cargo & supply chain management; logistics cluster; carriers, network, and regulation. Topics include how air cargo carriers and integrated carriers handle air cargo service, pricing, forecasting, and marketing. Particular emphasis on the economics of air transportation and network design.

Course Materials

Primary Text: Peter S. Morrell (2018), *Moving Boxes by Air: The Economics of International Air Cargo*, Routledge; 2 edition (October 24, 2018), ISBN-10: 1138745499, ISBN-13: 978-1138745490.

Required Reading: See Canvas for a link to Harvard Business Review to download these cases.

1. *Yamato Transport: Valuing and Pricing Network Services (A)*, Harvard Business Case 9-704-475.
2. *Yamato Transport: Valuing and Pricing Network Services (B)*, Harvard Business Case 9-704-477.
3. Masao, O. (2004), *Delivering the Goods: Entrepreneurship and innovation in a Japanese Corporation* blazing. Tokyo: International House of Japan.

Course materials, assignments, and outside readings will be available on Canvas.

Software: Course materials, assignments, and quizzes will be via Canvas. You are responsible for accessing Canvas to obtain all course materials. Additionally, many of the printed materials for this course are in Adobe PDF format (Adobe Acrobat). Adobe Acrobat Reader is required to open and read the PDF files. Acrobat Reader is available for free on the Adobe website, www.adobe.com. All assignments will be typed and saved as a Microsoft Office file (e.g., .doc, .ppt, or .xls as applicable) or as a PDF file. At least one assignment will require **Solver**, an add-in to Microsoft Excel. If you cannot access Excel, ensure you have a comparable tool that can solve a linear program.

Course Objectives

The air cargo industry, which ships over 52 million tons of cargo annually, offers exciting career opportunities. This course will equip you with essential knowledge of transportation trends, terminology, and procedures, as well as insights into the roles of freight forwarders, integrators, all-cargo carriers, and airline cargo units.

You will learn to link supply chain management with air cargo, understand transport economics and costs, and identify various air cargo carriers. Additionally, you'll analyze the relationship between international trade and air transport, tackle challenges like revenue maximization and route planning, and discuss the industry's current issues—all while mastering key industry terms and performance metrics.

Course Format

The course includes lectures, discussions, case studies, individual readings, quizzes, and projects. Lectures will introduce key principles but may not cover all material. Attendance and preparation for class discussions on assigned readings are expected, and students will actively participate in discussions.

Grading

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

Graded element	Percent	Points
A. Resume (10) and Student Acknowledgement and Acceptance (10)	1.7%	20
B. Professional Development	1.7%	20
C. Quizzes (9 @ ≈ 34)	26.7%	306
D. HomeWorks (Individual work) (3 @ = 70) D1. Yamato Case D2. Impact of new technologies (Autonomous vehicles) D3. DHL Transportation network	18.3%	210
E. Team Project & Presentation	21.8%	250
F. Exams (Mid-term exam: 170 points; Final exam: 170 points)	29.7%	340
	100%	1,146

* 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 guarantees that 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. It will be recognized if you provide reasonable reason with official evidence for your absence, which needs approval **at least 24 hours before**.

Grade	Numerical Range (%) (Primary)	Condition	Class Attendance (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 would be available unless it 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 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_Abstract.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 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 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, especially since you prepare for internships and job interviews to have your resume "ready to send." 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 should look like (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 attachment 2 for student acknowledgment and acceptance and submit it with your signature, date, and printed name by the due date (see the due date on pages 10 and 11).

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 done with the Professional Student Organizations and are listed at the end of this section. Attendees will be responsible for securing their own transportation to and from the tour locations; transportation will not be provided. Dates, times, and location information can be found on the schedule at the end of this section or from notifications from the Professional Student Organization. Registration for Tours will also be done with a Qualtrics link sent to faculty and students one week before the event. The registration system will allow students to register for an event until capacity restrictions are met or registration closes, whichever comes 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 3130) 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.

1. Another method to get PD: Choose one video from attachment 8 (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.
2. If you cannot attend two of these events due to work or class schedule conflicts, contact me (seock.hong@unt.edu) about attending alternative events, which is subject to approval before attending the event.
3. If you had not enrolled in LGAV 3140, a guest speaker's series of LGAV3140 could be possible for your alternative PD. In this case, you should follow the following procedure.
   - Students should contact Dr. Timothy Kincaid (Timothy.Kincaid@unt.edu) by noon on the day of the presentation. Say LGAV 3130 you want PD credit for and my name (Dr. Hong).
   - Dr. Kincaid then reply with the Zoom link or the classroom.
   - The day after class presentation, Dr. Kincaid will send an email to me confirming if you attended and LGAV3130 you want PD credit for.
   - You could also get one PD by submitting through my email (Seock.hong@unt.edu) a half-page summary of the lecture.
4. If you are enrolled (or taken before) in LGAV 3140, it is a part of the class curriculum. Guest speakers of LGAV 3140 are NOT eligible for PD credit in this class.
5. If you have other activities that you believe qualify for consideration for a professional development credit, please seek approval from the instructor before attending the event or meeting. Many of the opportunities are space-limited, so plan early! Note that you will need to attend two unique events for each logistics class that you enroll in.
6. In cases 2, 3, and 5, you should turn a half-page summary in within two weeks after the event using the professor's email (seock.hong@unt.edu). **The half-page summary should include when you participated, the topic, who was a lecturer, why the topic is interesting or important, etc**.

D. Quizzes

This course includes eleven times on-line quizzes via Canvas. You should expect, on average, one on-line quiz every one or two weeks covering the assigned material. Exceptions to some ad-hoc quiz will announce in class and/or Canvas. All assigned material (text, lecture slides, outside reading, assignments) 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 answer.

On-line Quizzes: Weekly quizzes will administer via Canvas. Once you begin taking the quiz on Canvas, you will have a limited time (approximately 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 or same questions on the exams.

Two same quizzes. The first quiz (regular quiz) is open from 10:00 am on Wednesday to Thursday midnight. The second quiz (late quiz) is from 00:01 am on Friday to midnight on Saturday within the given week. Regular quizzes (Q1, Q2,... Q9) and late quizzes (Q1L, Q2L,... Q9L) will be given for each quiz #1 to #9. **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.

E. Homework

There will be three assignments 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 7 and 10 with Cases 6 and 7).

F. Journals for your references

Referred Journals: If you want to use a scholarly journal, the journals below are good choices to find relevant articles.

- International Journal of Production Economics
- Journal of Airline and Airport Management
- Journal of Air Transportation Management
- Journal of International Economics
- Journal of Transport Economics and Policy
- Journal of Transport Geography
- Journal of Transportation Management
- Journal of Business Logistics
- Management Science
- The International Journal of Logistics Management
- The Transportation Journal
- Transportation Research
- Transportation Science

Example Articles:

Budd, L., Ison, S., 2017. The role of dedicated freighter aircraft in the provision of global airfreight services. *Journal of Air Transport Management* 61, 34-40.

Feng, B., Li, Y., Shen, Zuo-Jun M., 2015. Air cargo operations: Literature review and comparison with practices. *Transportation Research Part C: Emerging Technologies* 56, 263-280.

Hong, S.-J., Randall, W., Han, K., Malhan, A., 2018. Estimation Viability of Air Cargo Business of Combination Carriers: a data envelopment and principal component analysis. *International Journal of Production Economics* 202. 12-20.

G. Team Project & Presentation

Students are required to research a topic relevant to the course and present an overview of this research during an in-class presentation. Depending on your decision, you will form teams of 2 to 4 students to complete by yourself. The team will conduct presentations during the last few weeks of the course and will

assign presentation dates randomly. Specific milestone assignments for this project are included in the class schedule to keep your project on track.

The composition of your team is critical and can determine the success of your improvement effort. Including team members representing different perspectives and areas of expertise increases the likelihood of project success.

1. Select your teammate in the first and second week. Take care to choose the right people and invest in team diversity. Once you have made the team, submit the names to the instructor.
2. Set the tone and the ground rules. Do this at your very first team meeting.
3. You are setting clear and achievable goals and **topics related to the air cargo for the project**. No two teams may select the same topic.
4. Achievable early Goals. Make use of your goals to build team spirit and enthusiasm.
5. Communication.

If someone does not find a team, the instructor will assign it to an already composing team or make a new team.

Your grade on the team project is divided into three parts.

1. The first part (Deliverable I, II, III, and IV) is the same score for all members of the team (0–60 points).
2. The second part of your score is an assessment of your presentation slide (Deliverable V) (70 points) and communication skills (Deliverable VI) (120 points).
3. The third part of your score is a multiplier that I will determine for each student based on a peer evaluation of their contributions to the team. This multiplier is used to adjust the team score (0–250 points) based on your level of effort. There will be a mid-term peer evaluation following the third project deliverable (the outline). The peer evaluation (Deliverable VII) will give each team member an estimate of his or her perceived contributions to the project.

    a. It IS possible to earn zero points if you do not contribute to the team project.
    b. It IS possible to earn more points than your colleague if you contributed more than your share of the workload.
    c. My experience: Students on teams that collaborate and work well together have a multiplier of 1.0 and earn 100% of the team points.

Team collaboration: Each team will have a private discussion forum on Canvas for collaboration on the project. Utilize Canvas to communicate, share files, and assign tasks. Effective communication is crucial for successful teamwork, though coordinating in-person meetings can be challenging. Be prepared to rely on electronic collaboration when necessary.

How to contribute to a team:

- Set up meetings, timelines.
- Consolidate the research.
- Edit the consolidation for flow.
- Build your slides.
- Edit slides.
- Spell check, ensure consistency.
- Do your part—allocate tasks.
- Don't let your teammates down.
- Show up for the presentation.
- Share your ideas.

H. Research Experience Program (Optional)

The Research Experience Program at the RCoB allows faculty and PhD researchers to collect data on consumer behavior, marketing, and other areas of study. Researchers apply their findings to current industry needs, and deepen our understanding of human behavior in business markets, organizations, and management.

As part of your learning experience in this course, you will be required to participate in research studies to gain experience with the research process. Your participation in these research studies will make up **10%** of your final class grade. Your participation in this program is critical to the furthering of UNT's research goals.

To fulfil the requirement, you **must** create an account on the **College of Business REP** webpage—**unt-cob.sona-systems.com**—which allows you to browse and sign up for available studies. **DO NOT** sign up for the SONA in the Psychology Department! Use the **CoB SONA** link provided above.

The amount of credit assigned is based on the format and duration of the study.

Online Studies
- <15 minute studies = 1 credit
- 15-30 minute studies = 2 credits
- >30 minute studies = 3 credits

In-Person Lab Studies (Behavioral Lab - BLB 279)
- <15 minute studies = 3 credit
- 15-30 minute studies = 4 credits
- >30 minute studies = 5 credits

To fulfill the 10% course requirement, you must earn a total of **10 REP credits** throughout the semester (i.e., 1 credit = 1 percent of your final grade). All credits earned will be added to your final course grade at the end of the semester. Additional extra credit points may be available at my discretion.

- ➔ To sign up, please visit **unt-cob.sona-systems.com**. If you have questions, DO NOT contact me. Instead, contact the REP Admin Team via email at RCoBRep@unt.edu. Your questions will be addressed promptly, usually within 24 hours.
- ➔ Visit **cob.unt.edu/research/research-experience-program** for detailed sign-up instructions and more information.

Important Deadlines!
April 24th, 5:00 PM – Last day to participate in SONA for Spring semester.

You will have one week from this date to adjust your final credits assigned to particular classes in SONA. On **May 1st**, final scores will be distributed to instructors and cannot be changed after that point.

Please Note:
1) Don't wait! Create your account ASAP! Get first access to available studies.
2) Assign your credits to the proper course. This course is: LGAV3130.
3) If you have another course that also requires SONA credits, you must complete those credits separately. On the main SONA account page, you can assign your completed credits to specific courses (of your choice). You have up to May 1st to adjust these credits!
4) If you do not want to participate in the posted studies, you can complete a 2-page research article critique for 2 points of REP credit each. To do so, please email RCoBRep@unt.edu and they will assign you an article to critique. Critiques are due on or before **April 24th**. Article critiques will not be available until the last week before April 24th. Please note that study participation will require less of your time than article critiques.

I. Grading and others

Grading: Specific guidelines, grading rubrics, and the peer evaluation outline in attachments to this syllabus.

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 contact 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, Withdraws, & 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: To appeal a grade on an assignment or exam, submit a written request via email or letter within one week of receiving the grade. Include your concern or question about the grade, an explanation of why you believe your answer is correct, and supporting documentation, such as references from the text, course slides, or syllabus readings. Appeals lacking specific references will not be considered. Grades will not be lowered under any circumstances.

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 use 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 announce in class before the change and posted on Canvas**.

Week	#	Date	Topic, Assignments, and Readings
W 1	1	Jan 12 Mon	Course Overview: Review Syllabus and Course Requirement Introduction of Team Projects
	2	Jan 14 Wed	Supply Chain, Transportation, and Air Cargo -Case: Sara Lee, and Hanes Build a team for project
W 2	3	Jan 19 Mon	MLK Jr. Day [No Class]
	4	Jan 21 Wed	Air Cargo Introduction: MB 1, MB 2: Walmart-Waste of Package Quiz #1 Syllabus Due: Student Acknowledgement and Acceptance Due: Team Project Deliverable 1 –Team building
W 3	5	Jan 26 Mon	Air Cargo Supply Chain: Sara Lee & Hanes
	6	Jan 28 Wed	Air Cargo Supply Chain: Apple Due: Team Project Deliverable 2 –Topic
W 4	7	Feb 2 Mon	Air Cargo and Push/Pull Due: Resume and Release Form until 23:59
	8	Feb 4 Wed	Air Cargo Carriers and Aircraft Quiz #2 Air Cargo Introduction; SCM and Transportation
W 5	9	Feb 9 Mon	Demand for Air Cargo
	10	Feb 11 Wed	Demand and Forecast: MB 14 Quiz #3: Air Cargo Carrier and Aircraft
W 6	11	Feb 16 Mon	Air Cargo, Drone, and Autonomous Vehicles: MB 3, MB 7
	12	Feb 18 Wed	Air Freight market: MB 4, MB 5 Quiz #4 Demand for Air Cargo and Forecasting
W 7	13	Feb 23 Mon	Air Cargo Competition: Alliances and Mergers: MB6 Due: Team Project Deliverable 3 – Outline until 23:59 You need to complete your first PD by the end of today.
	14	Feb 25 Wed	Preparation for the mid-term-exam and the team project with team members [No Class] Quiz #5 Air Cargo Competition
W 8	15	Mar 2 Mon	Case review of Yamato
	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	Regulations and Liberalization for Air Cargo: MB 3
	18	Mar 18 Wed	Flow and Economic Development Homework #1: Yamato case until 2359.
W 11	19	Mar 23 Mon	Rate Making and Case of Amazon and Airbus 380 Logistics Due: Team Project Deliverable 4 – Revised outline until 23:59
	20	Mar 25 Wed	Air Cargo Operations, and Freight Forwarders: MB 7, 8 Quiz #6 Air cargo Liberalization and FTZ
W 12	21	Mar 30	Impact of New Technology (I)

		Mon	
	22	Apr 1 Wed	Impact of New Technology (II) Homework #2: Team Project-New Technology. Quiz #7 Flow and Economics Development / Yamato
W 13	23	Apr 6 Mon	Load Planning, Center of gravity and Distance
	24	Apr 8 Wed	Transportation Model and Network design in Air Transport: MB 9 Quiz #8 Rate making, Air Cargo Ops and Freight forwarders
W 14	25	Apr 13 Mon	Guest Speaker: Mr. Nathan Andrade and Mr. Alexis Powell, American Airlines Cargo Revenue Management Due: Team Project Deliverable 5–Presentation slides until 23:59
	26	Apr 15 Wed	Transportation and Transshipment Model / Case of DHL global forwarding Quiz #9 Load Planning and Transport Network Due: Team Project Deliverable 7 – Peer evaluation. Due: The 2nd PD to submit by the end of today.
W 15	27	Apr 20 Mon	Team Project Deliverable 6: Presentations
	28	Apr 22 Wed	Team Project Deliverable 6: Presentations
W 16	29	Apr 27 Mon	Team Project Deliverable 6: Presentations Homework #3: DHL Transportation network until 2359.
	30	Apr 29 Wed	Team Project Deliverable 6: Presentations

Note 1: MB-Moving Boxes by Air (Textbook)
Note 2: MB1-Moving Boxes by Air Chapter 1

Final Exam: Monday, May 4, 2026, 12:30 pm to 01:50 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:

Student LastName_LGAV3130_Semester_Year
Example: **HONG_LGAV3130_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 distribute 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 –1.8 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 **(1.6 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 **(1.4 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 **(< 1.4 points)**	**/2**
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 **(3 – 2.7 points)**	- 1-2 duties/skills lack action phrases - Information demonstrates ability to perform the job - Some professional terminology used when describing skills **(2.6 – 2.4 points)**	- 3-4 duties/skills lack action phrases - Some information demonstrates ability to perform the job **(2.3 – 2.1 points)**	- 5-6 duties/skills lack action phrases - Information does not clearly demonstrate ability to perform the job **(< 2.1 points)**	**/3**
Resume Content	-Header, Objective, Education, Skills, Experience covered in detail -Name, address, phone #, email -Extra information was given to enhance resume **(3 – 2.7 points)**	-Header, Objective, Education, Skills, Experience covered in some detail -Name, address, phone #, email -Extra information was given to enhance resume **(2.6 – 2.4 points)**	-Header, Objective, Education, Skills, Experience covered with little detail -Name, address, phone #, email -Minimal extra information was given to enhance resume **(2.3 – 2.1 points)**	-Missing one of the following: Header, Objective, Education, Skills, Experience -Name, address, phone #, email -No extra information was given to enhance resume **(< 2.1 points)**	**/3**
Spelling & Grammar	- No spelling errors - No grammar errors **(2 – 1.8 points)**	- 1-2 spelling errors - 1-2 grammar errors **(1.6 points)**	- 3-4 spelling errors - 3-4 grammar errors **(1.4 points)**	- 5-6 spelling errors - 5-6 grammar errors **(< 1.4 points)**	**/2**
				Total Score:	**/10**

Attachment 2: Student Acknowledgement and Acceptance

I have received and read the LGAV 3130 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 team assignments and use of peer evaluations
- Class attendance
- Executive lecturer, on-boarding program attendance, and other professional developments
- 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 sanction 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, 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: Abbreviations

3Ls	Location, Location, Location
3PL (or TPL)	Third-Party Logistics
3Ss	Standardization, Specialization, Simplification
3Vs	Velocity, Variability, Visibility
ACMI	Aircraft, Crew, Maintenance, and Insurance
ATC	Average Total Cost
ATK	Available Ton Kilometer
ATM	Available Ton-Mile
ATS	Automated Targeting System
AWB	Air Waybill
BAX	Burlington Air Express
BDI	Baltic Dry Index
BELF	Break Even Load Factor
BTS	the Bureau of Transportation Statistics
CAB	Civil Aeronautics Board
CAGR	Compound Annual Growth Rate
CATK	Cost per Available Ton Kilometer
CATM	Cost Available Ton-Mile
CB	Center of Balance
CBP	Customs and Border Protection
CCR	Commodity Classification Rate
CCSP	Certified Cargo Screening Program
CF	Consolidated Freightways
CFR	Code of Federal Regulations
CMO	Current Market Outlook
CRAF	Civil Reserve Air Fleet
CRS	Computer Reservation System
DHS	Department of Homeland Security
DOD	Department of Defense
DOT	Department of Transportation
e-CSD	electronic Consignment Security Declaration
ERRC	Eliminate, Reduce, Raise, and Create
ETOPS	Extended Two-Engines Operations
eVTOL	electric Vertical Take-Off and Landing
FAA	Federal Aviation Administration
FFPs	Frequent Flyer Plans
FTK	Freight Ton Kilometer
FTM	Freight Ton-Mile
FTZ	Free Trade Zones or Foreign Trade Zone
GATS	General Agreement on Trade in Service
GATT	the General Agreement on Tariffs and Trade
GCR	General Cargo Rate
GCR	General Commodity Rate
GDP	Gross Domestic Product
GMF	Global Market Forecast
GNP	Gross National Product
HAWB	House Air Waybill
IATA	The International Air Transport Association
ICAO	International Civil Aviation Organization
ISM	the Institute for Supply Management

JVs	Joint Ventures
LEED	Leadership in Energy and Environmental Design
LF	Load Factor
LLP	Leading Logistics service Provider
LPI	Logistics Performance Index
MAWB	Master Air Waybill
MC	Marginal Cost
MFN	Most Favored Nations
MR	Marginal Revenue
MTO	Make-to-Order
NAFTA	The North American Free Trade Agreement
NASCAR	The National Association for Stock Car Auto Racing
NPV	Net Present Value
NUMMI	New United Motor Manufacturing Inc.
NVOCC	Non-Vessel Operating Common Carrier
OAG	Official Airline Guides
PPB	Principal Place of Business
PMI	Purchasing Managers Index
PPBM	Positive Passenger Baggage Matching
PPP	Purchase Power of Parity
PSI	Principal Security Inspectors
QC	Quick Change
REA	Railway Express Agency
RFID	Radio Frequency Identification
RFTK	Revenue Freight Ton Kilometer
RFTM	Revenue Freight Ton-Mile
RDL	Reference Datum Line
RL	Reference Line
RTE	Real Time Enterprise
RTK	Revenue Ton Kilometer
RTM	Revenue Ton-Mile
SCCO	Supply Chain Coffee Operation
SCM	Supply Chain Management
SCOR	Supply Chain Operations Reference
SCR	Specific Commodity Rate
TRIPS	Trade-Related Aspects of Intellectual Property Rights
TSA	Transportation Security Administration
TSI	Transportation Services Index
TWA	Transcontinental & Western Air
ULD	Unit Load Device
UVA	Unmanned Aircraft Vehicle
VFR	Visit Friend and Relative
VTOL	Vertical Take-Off and Landing
WB	Weight and Balance
WTO	World Trade Organization

Attachment 5: Team Project (#1) Guidelines

Purpose: To research a topic relevant to the air cargo industry and give an oral presentation to the class. When selecting a topic, the focus should be on challenges facing the industry. The deliverables for the team project are listed below. The due dates will announce in the class schedule.

Student Teams: Teams, comprised of two or three students, will research a topic and prepare a formal presentation to the class. Each team will select a topic related to the Air Cargo Industry. No two teams may choose the same subject. The topic will be de-conflicted after the first deliverable. If two teams select topics that are similar, I will contact those teams and help to move the research in two different directions.

Deliverables: There are six deliverables for this project. The first four are milestone assignments to ensure the project is on track. All of deliverables have to include the references at the end of the report.

1. Deliverable I: Team composition **(10 points)**

2. Deliverable II: Topic and Purpose **(10 points)**

    1. Upload a readable file with Word to Canvas
    2. Team number
    3. Team member's name
    4. Title of Presentation
    5. A one-paragraph summary of the topic.

3. Deliverable III: Outline **(20 points)**

    a. Prepare an outline of the presentation

    b. Outline should include
    i. Motivation. Why is the topic important? Why should we care about the topic?
    ii. Background information. How does the topic fits within the industry?
    iii. The key challenges facing the organization or relevant to the topic.
    iv. Stakeholders. Who is affected, and what is the impact on the stakeholders?
    v. Solutions or strategies to address these key challenges.
    vi. Advantages or disadvantages with the solutions/strategies
    vii. Recommendations. Which would solutions or strategies recommend? What can be done to eliminate the disadvantages or challenges? What improvements can we make?
    viii. References. List all of the references you read and cite following the APA (American Psychological Association) style. Once you refer to specific references, please cite them.

    Example for APA style: Hong, S.-J., Choi, D., Chae, J., 2020. Empirical Study on Servicescape, Convenience, and Services at International Airport Passenger Terminals. *Journal of Retailing and Consumer Services* 52. 101917.

    c. Upload to Canvas with title, team number, team member name, summary, and outline.

4. Mid-Project Peer Evaluation

    a. Submit the Peer Evaluation Form to professor's email (seock.hong@unt.edu)

5. Deliverable IV: Revised Outline **(20 points)**

a. Based on my feedback; your outline will revise.
b. Upload to Canvas with title, team number, team member name, summary, and revised outline.

6. Deliverable V (Presentation slide) **[70 points]** and Deliverable VI (Class presentation) **[120 points]**:

   a. Prepare a 20-25-minute class presentation
   b. PowerPoint slides are required
   c. Include notes in the note section of each slide. Instead of a written report, all supporting information and sources will include in the notes section of the PowerPoint file. The notes section should include the detailed information to support each point on the main presentation slide.
   d. Upload PowerPoint slides to Canvas (Deliverable V).
   e. On the day of your presentation, turn in a printed copy of your presentation in the "note pages" format. The notes section will grade for content.
   f. The slide presentation should divide among the students on the team. Each student on the team is required to present his/her portion of the team research.

7. **Peer Evaluation (Deliverable VII)**: Each student will complete a peer evaluation on themselves and their team members. The peer evaluation will give you an idea of how your team members perceive your contributions to the team project. (Will be influenced by your total score of the team project from 0 to 100% of your total team project score, especially for Deliverable V and VI.)

Potential Research Topics for Team Project: Below is some ideas that would make a good research project and presentation.

1. In-depth analysis of an Industrial Airport: effect on carriers and region
2. Air cargo and free trade zone
3. Future cargo freighter innovations: impact and uses
4. Unmanned aircraft to deliver boxes: Impact on air traffic
5. Alternative fuels in aviation
6. Air cargo safety—Incident and accident assessment
7. Cargo freighter manufacture: challenges and future

Your research should investigate the challenges facing the air cargo industry today. The team project is NOT merely a background report. Your presentation should give us an understanding of the problems, issues, alternatives, and possible solutions.

The Research: While each project will be slightly different, below are the most common types of information you should include in your presentation:

1. Motivation: Why should we know more about this topic? Why is the topic important?
2. A brief overview of the issue or topic. The history of the theme should keep to a minimum. The presentation is not merely what has happened in the past, but what is important today and in the future.
3. What are the challenges for the industry?
4. Who are the major stakeholders?
5. Are there different sides to the issues (advocate/opponents)?
6. What is the impact to the stakeholders?
7. What is the impact on the industry?
8. What is the status?
9. What is the outcome?
10. What happens next? Recommendations.
11. Data should be used whenever possible

Other Team Project Topics: Or you could choose one of followings and explain on air cargo market and cargo freighter answering from a to f.

1. Boeing, Commercial Market Outlook (CMO) 2024-2043 (https://www.boeing.com/commercial/market/commercial-market-outlook#overview).
2. Boeing, World Air Cargo Forecast (WACF) 2022-2041 (https://www.boeing.com/commercial/market/cargo-forecast).
3. IATA Cargo Strategy (https://www.iata.org/en/publications/).
4. Airbus, Global Market Forecast (GMF) 2024-2043 (https://www.airbus.com/en/products-services/commercial-aircraft/market/global-market-forecast).

    a. Explain general aspect of air cargo market. Is there any particular thing for Boeing (or Airbus, IATA) describe to market characteristics?
    b. Analyze Air cargo market in North America and North America to another market.
        - South America and South America to another market
        - Intra-Europe and Europe to another market
        - China and China to another market
        - Intra-Asia and Asia to another market
        - Middle East (ME) and ME to another market
    c. How many freight fleets needed in 20 years in the world and by region?
    d. Explain air cargo forecast methodology and how to predict the market, especially for Boeing and Airbus.
    e. Factors and constraints for air cargo growth.
    f. etc.

The Presentation Guidelines:

1. Presentations should be no shorter than 20 minutes and no more than 25 minutes in length, including questions. However, the presentation time will be adjustable based on the situation..
2. The oral presentation should divide among all team members.
3. Power Point slides:

    a. Include the motivation: Tell us why this topic is important.
    b. Include and introduction and conclusion:
        i. Tell us what you are going to tell us.
        ii. Tell us what you just told us.
    c. Slides (format, font, and theme) should be consistent.
    d. Avoid putting too much information on one slide. You do not want your audience to "read" the slides, but rather listen to what you have to say.

4. Practice briefing your slides:

    a. You should know the material well enough to present your slides without relying on your notes.
    b. Remember to maintain eye contact with the audience.

Team Project (#1) 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)**
Background and issues	Clearly identifies the key points, issues or challenges. Provides ample supporting detail to capture the key points. Provides sufficient background information so that the audience understands the key points. **(21-19 points)**	Clearly identifies the key points, issues or challenges. Provides some supporting detail to capture the key points. Provides some background information but also includes extraneous or loosely related material. **(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. The presentation is not concise-may be repetitive or contain unnecessary material. **(16-14 points)**	Includes inconsistent or few details which may interfere with the meaning of the presentation-no clear attempt to communicate in a concise, direct manner. **(< 13 points)**	**/21 (30%)**
Finding, Recommendations, or Way Ahead	Identifies the importance or the findings and conclusions (answers the "so what" question). Provides sufficient evidence to support the findings or conclusions. Makes a recommendation or way ahead that support evidence. **(21-19 points)**	Findings and conclusions are not surprising and as one would expect. Provides sufficient evidence to support the findings or conclusions. Recommendation or way ahead is not fully formed. **(18-17 points)**	Findings and conclusions are not surprising and as one would expect. Provides limited evidence to support the findings or conclusions. Recommendation or way ahead is not fully formed. **(16-14 points)**	No attempt is made to provide conclusions or recommendations. The presentation does not include a recommendation or 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%)**

Team 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. **(24-22 points)**	Consistent use of direct eye contact with audience, but still returns to notes. Speaks with satisfactory variation of volume and inflection. **(21-19 points)**	Displays minimal eye contact with audience, while reading mostly from the notes. Speaks in uneven volume with little or no inflection. **(18-16 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. **(< 15 points)**	**/24 (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. **(36-32 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. **(31-28 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. **(27-25 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. **(< 24 points)**	**/36 (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. **(36-32 points)**	Shows some enthusiastic feelings about topic. Raises audience understanding and awareness of most points. **(31-28 points)**	Shows little or mixed feelings about the topic being presented. Raises audience understanding and knowledge of some points. **(27-25 points)**	Shows no interest in topic presented. Fails to increase audience understanding of knowledge of topic. **(< 24 points)**	**/36 (30%)**
Handling of questions	Questions answer with evidence obtained from the research of the topic. **(12-10 points)**	Questions are answered, but may not be fully supported with evidence obtained from the research. **(10-9 points)**	Questions are not fully answered. **(8 points)**	No effort is attempted to answer questions. **(< 7 points)**	**/12 (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.	**/12 (10%)**

	the time allotted for the presentation. The presentation is neither too fast nor too slow. **(12-10 points)**	The presentation is neither too fast nor too slow. **(10-9 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	**/120 (100%)**

Attachment 6: Peer Evaluation (Deliverable VII) Form for Team Project #1 and 2

Your personal score on the team project divided into three parts.

1. The first part (Deliverable I, II, III, and IV) is the same score for all members of the team (60 points).
2. The second part (Deliverable V and VI) of your score is an assessment of your communication skills (190 points).
3. The third part of your score is a multiplier that I determine for each student based on this peer evaluation form from Deliverable I to VI, especially for V and VI).

Team Projects Overview: There are several advantages to team projects. Teams allow students to work on larger projects by distributing the workload, sharing ideas, and jointly helping team members acquire knowledge and skills. In the process, students learn more than they could have on their own. At the same time, negative behavior can hinder team learning. Dominating team members may stifle the ideas or contributions of other members. Alternatively, a student may shirk his or her portion of the workload placing a greater burden on the remaining team members.

The purpose of the grade multiplier is to reward high-performing teams and adequately adjust the individual grades in the case of lower-performing teams. In a high-performing team, where each student shares in the learning process, students should expect to receive the same grade on the project. However, when the workload or learning is not fairly dispersed, the project grades should be reflective of this negative behavior.

Peer Evaluation: You will rate yourself and your teammates in the areas of Leadership, Technical support, and Research. In each category (Defined below), you will allocate 100% of the effort. From the aggregate scores, a multiplier will be derived ranging from 0-Nx100%, where N is the total number of the team. On high-performing teams, the multiplier will most likely be close to 00% with each team member receiving the same project grade.

Leadership	Your view of each member's leadership contribution, to include (but not limited to): - Organizing team meetings - Keeping the team on-task - Coordination of project components
Technical	Your view of each member's technical contribution, to include (but not limited to): - Writing and editing - Preparation of presentation slides - Organizing content
Research	Your view of each member's research effort, to include (but not limited to): - Library and internet search - Finding support material - Developing the main points and evidence

Your Name:

Effort Allocation: Please place you allocation of effort in the appropriate locations in the table below. Each column must add to 100%. If you feel that several (or all) of your team members contributed equally, it is a straightforward matter to divide 100% by N, where N is the total number of students on the team (e.g., 33 1/3%, 33 1/3%, and 33 1/3% for a 3-member team). You may also recognize that everyone has different strengths that equally contribute to a successful team. For example, one team member may excel in leadership qualities, another in the technical aspects of bringing the project together, while the last member excels in research. In this case, you may rotate the weight in each category among the names (e.g., Leadership: 50%, 30%, 20%, Technical: 30%, 20%, 50%, Research: 20%, 50%, 30%).

Effort allocation is required; my experience has been that your evaluation of your efforts will be at least as high as your team's assessments of the same work ("Nobody knows the trouble I have seen"). Comments are optional (but help me a lot). Specific information will be kept confidential.

Your team #:	**Leadership**	**Technical**	**Research**
	This column must add to 100%	This column must add to 100%	This column must add to 100%
Your Name:			
Team Member Name:			
Team Member Name:			
Team Member Name:			
Total (Must equal 100%)			

*** Please submit this form to my email (seock.hong@unt.edu), do not upload it to CANVAS.**

Comments (be honest each team member).

Attachment 7: Team Project II - 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, eVTOL, and automated (or autonomous) vehicles, regarding general usage, safety, etc.
2. Find at least three cases to use at the airport or airlines for air cargo or baggage handling. 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 the team number and the list of team members.
2. Use Case Slides: Create at least three cases with accompanying photos for air cargo or baggage handling at airports or airlines (one slide per case).
3. Conclusion: What is your opinion on the new technologies in air transport?
4. References: One slide listing all the references you used. Please ensure that all slides are clear and well-organized.

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&t=3s

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

Team Project II 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	**/50 (100%)**

Attachment 8: References-YouTube video

Airlines economics

1. The Rigged Economics of Airlines (28 min 22): https://www.youtube.com/watch?v=rslcr774JXM
2. How Airlines Make Money: The Economics of Business Class (12 min 14): https://www.youtube.com/watch?v=dTqEQ8ng4QQ

Air cargo and its sustainable future

3. Episode 1: Air Cargo and its Sustainable Future (23 min 48): https://www.youtube.com/watch?v=DyayjMdb2cs&t=1s
4. Can sustainable aviation fuel clean up flying? | FT Rethink (7 min 18): https://www.youtube.com/watch?v=KNGSOt2aOIQ

Combination carriers' cargo system

5. Behind the Scenes @American Air - AA Cargo (3 min 23): https://www.youtube.com/watch?v=WjHqfhGxtE8
6. Southwest Airlines "Day in the Life of Cargo" (4 min 30): https://www.youtube.com/watch?v=ShfNzRP6Zxs&feature=relmfu

Airport cargo terminal

7. Vision of the World's Best Cargo Terminal (4 min 44): https://www.youtube.com/watch?v=1r2slr7Ojec
8. InteliBuild - Cathay Pacific Cargo Terminal – Operations (4 min 50): https://www.youtube.com/watch?v=nU3q-GT-9IY
9. Flying on Qatar Airways B747-8 Cargo Plane (24 min 33): https://www.youtube.com/watch?v=Z9l7aWpqkko

Cargo handling system

10. Cargo Handling Systems (2 min 36): https://www.youtube.com/watch?v=0kyPXHarMIk
11. Air cargo handling systems (5 min 10): https://www.youtube.com/watch?v=clsuRCFJOkI

FedEx and UPS

12. Inside the FedEx Memphis "Super Hub" (2 min 7): https://www.youtube.com/watch?v=iYzQ7JSBIGU
13. Fed Ex Ant Hill (3 min 36): https://www.youtube.com/watch?v=CzsXqawswPc
14. Inside UPS (3 min 47): https://www.youtube.com/watch?v=VQReRnmCaqA&feature=autoplay&list=PL517B6F8D326684E4&lf=rellist&playnext=2
15. How UPS Works (3 min 54): https://www.youtube.com/watch?v=pcsk9nEKPGM&index=3&list=PL517B6F8D326684E4

Aircrafts

16. Airbus A380 Delivery: Logistics Challenge (Series 1 to 15): https://www.youtube.com/watch?v=ki2QwtB-TAw&list=PL26B61E86210CF34E
17. The Unexpected Success of the Airbus A300 (35 min 07): https://www.youtube.com/watch?v=LRFCGAASKow
18. Airbus A380 - Megastructures Documentary - National Geographic Documentary (50 min 20): https://www.youtube.com/watch?v=GPXdeCT7Nic
19. Concorde: A Supersonic Story [BBC] 2017 (58 min 59): https://www.youtube.com/watch?v=jnh3PdNN6ps

Foreign Trade Zones

20. Foreign Trade Zones: Port of Seattle (7 min 1): https://www.youtube.com/watch?v=Pvl-jyTPC6E
21. Foreign-Trade Zones (FTZ): International Trade Administration (36 min 49): https://www.youtube.com/watch?v=XTa71-8--Sw
22. Foreign Trade Zones (8 min 45): https://www.youtube.com/watch?v=mIYoM0i7nok

U.S. China Trade related

23. America v China: why the trade war won't end soon | The Economist (9 min 17): https://www.youtube.com/watch?v=ErwIlvQ_RVk
24. How Amazon Beat Supply Chain Chaos with Ships, Containers and Planes (15 min 45): https://www.youtube.com/watch?v=HxXJ8Q2GCs4

Amazon related

25. How Amazon Delivers on One-Day Shipping (20 min 19): https://www.youtube.com/watch?v=Yiafb0-gqF4

COVID-19 and aviation industry related

26. Can Major U.S. Airlines Survive the Coronavirus Outbreak? (10 min 20) : https://www.youtube.com/watch?v=4WFMt14dSoQ
27. What to Expect When You Fly in the Future (7 min 13): https://www.youtube.com/watch?v=pK_hZmBOmfk&feature=youtu.be
28. What Does the Future Of Air Travel Look Like? (14 min 35) https://www.youtube.com/watch?v=xLR25jvH22E

Air cargo history

29. 100 years of air cargo (10 min 33): https://www.youtube.com/watch?v=kqJgIpICbfA

Take a look at 100 years of air cargo flight in Germany: The logistics industry is duly celebrating this very special Jubilee of its origins on its centennial anniversary. On 19 August 1911, a single-engine Harlan took off from a grass strip in Berlin-Johannisthal carrying just cargo. One hundred years since that first air cargo flight in Germany, airfreight is indispensable for the transport of goods in the global economy (Uploaded on Sep 6, 2011).

You could choose one of YouTube videos **from pages 33-34 and 1 to 28 from the above list for your PDs**, 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 1, 3, 9, 16 (choose one series among all 15 series), 17, 18, 19, and 20 with at least two pages summary, it will be two PDs.

(Note) Sometimes, the YouTube link needs to be better connected. If it happened, you could copy and paste the title on YouTube and find it. Let me know if you can't find it or if you find the wrong link. 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 air cargo and notify me beforehand for your PD use.

Attachment 9: Types of Airlines

Not all airlines are created equal. As in most businesses, there is a sort of stratification of airlines, at least within the United States. U.S. airlines are either publicly or privately owned -- however, in many countries, the government owns the airlines. A U.S. airline's rank is determined by the amount of revenue it generates. It is then classified by the U.S. federal government and placed in one of three categories: major, national or regional.

If you've flown before, it may be easy for you to tell the difference between the three categories. Each of the three types of airlines has distinguishable routes. Typically, the larger airlines offer more destinations and longer routes. Let's take a closer look at these airline categories.

Major airlines - These are the heavyweights of the airline industry, and you will often hear about them in the news. A major airline is defined as an airline that generates more than $1-billion in revenue annually. There were 10 major airlines as of 2019: Alaska Airlines, Allegiant Air, American Airlines, Delta Air Lines, Frontier Airlines, Hawaiian Airlines, JetBlue, Southwest Airlines, Spirit Airlines, and United Airlines.

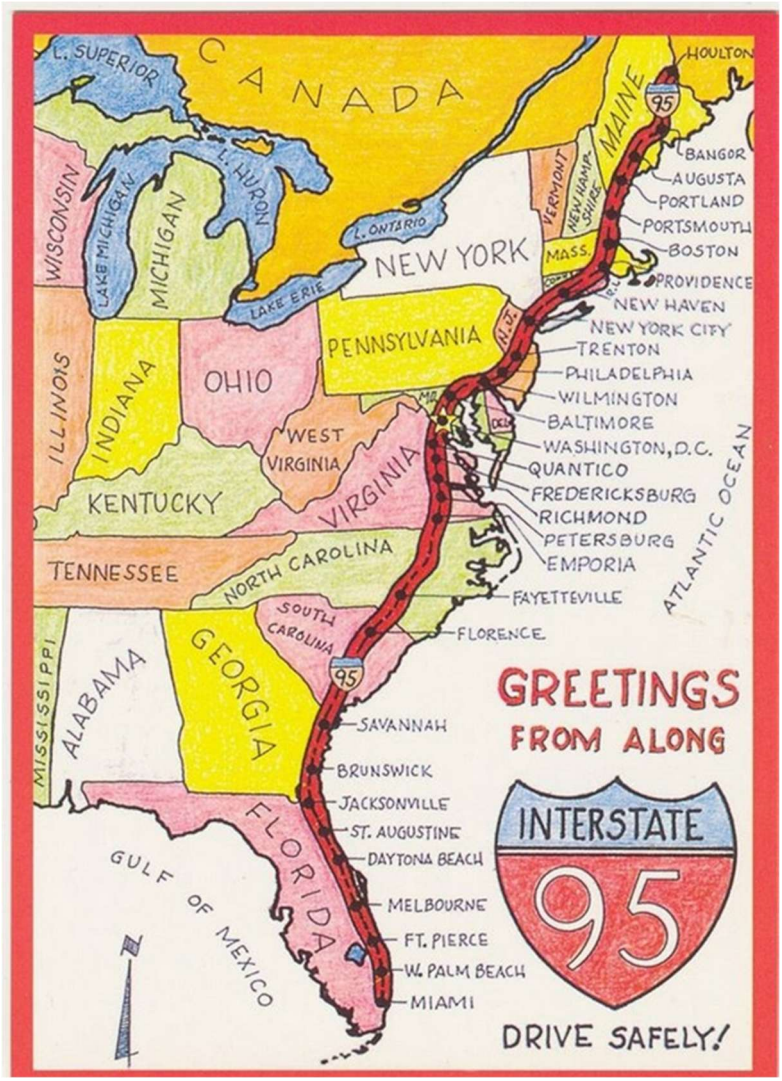
National airlines - Just one step down from the major airlines, these are scheduled airlines with annual operating revenues between $100-million and $1-billion. These airlines might serve certain regions of the country, but may also provide long-distance routes and some international destinations. They operate medium- and large-sized jets. Examples of national airlines include Envoy Air (subsidiary of American Airlines Group), Republic Airways (subsidiary of Republic Airways Holdings), and SkyWest Airlines (subsidiary of SkyWest, Inc.)

Regional airlines - As the name suggests, these airlines service particular regions of the United States, filling the niche markets that the major and national airlines may overlook. Regionals are divided into three subgroups: **Large regionals** - These are scheduled carriers with $20-million to $100-million in annual revenue. They operate aircraft that can accommodate more than 60 passengers. **Medium regionals** - These airlines operate on a smaller scale, with operating revenues of under $20-million, and often use only small aircraft. **Small regionals** - These airlines don't have a set revenue definition, but are usually referred to as "commuter airlines." They use small aircraft with less than 61 seats.

Attachment 10: Case 1-Transportation Directional Imbalance: Sara Lee and Walmart

… Sara Lee was already using a fair amount of offshore manufacturing in Latin America in the late 1980s, and bringing the clothing in through ports in the southeastern United States, from where it then traveled by truck to Sara Lee distribution centers and then from Sara Lee warehouses to Wal-Mart warehouses. The team quickly discovered that Wal-Mart had hundreds of trucks driving north on I-95 from Florida, mostly empty after delivering merchandise to Florida stores.

Why not fill those empty trucks with underwear and socks, and stop using Sara Lee trucks altogether? (Source, Fishman, 2007, p64)



- Offshore vs. outsourcing
- Directional Imbalance
- Combine in and out transportation

Case 2-Delivering Quantity: Hanes and Walmart

Hanes was sending men's and boys' underwear to Wal-Mart stores in cases of six-dozen packages. "It was more than a store could handle," say, Caldwell. "The store would order half a case. So, Wal-Mart was picking the underwear up at our distribution center, hauling it to their place, breaking open the case to supply underwear on a partial case basis." Sara Lee's people said, "That is crazy." They quickly came up with a three-dozen package cast to allow stores to order the underwear in smaller quantities without having to have someone manually open every shipping carton and break the packages out into smaller groupings. "Imagine how much money that saved in Wal-Mart's distribution centers, at a very modest out-of-pocket cost to Sara Lee," says Caldwell. "And that cost was more than made up for in the increased sales in the stores as a result of a reduction in stock-outs." Stores ordered more precisely, more routinely.

Those two changes in distribution, says Caldwell, "reduced total costs for the two companies between 1.5 percent and 2 percent"-large amounts of money, given the volumes involved. (Source, Fishman, 2007, p65)

- Order and deliver small quantity
- Order precisely
- Deliver frequently
- Meet customer need
- Stock out and markdown

Case 3-Walmart: Waste of Package

1) Starting in the early 1990s, a change swept through a line of deodorant that most adult Americans use every day. Until then, nearly every brand and style of deodorant – roll-on and solid, powder-fresh and unscented – came in a paperboard box. You opened the box, pulled out the container of deodorant, and pitched the box in the garbage.

In the early 1990s, Walmart, among other retailers, decided the paperboard box was a waste. It added nothing to the customer's deodorant experience. The product already came in a can or a plastic container that was at least as tough as the box, if not tougher. The box took up shelf space. It wasted cardboard. Shipping weight of the cardboard wasted fuel.

The itself cost money to design, to produce – it even cost money to put the deodorant inside the box, just so the customer could take it out. With the kind of quiet but irresistible force that Wal-Mart can apply, the retailer asked deodorant makers to eliminate the box. Unbox the antiperspirant.

For a more detailed analysis of this topic, see The Wal-Mart Effect: How an Out-of-Town Superstore Became a Superpower by Charles Fishman (2006, Penguin Books)

2) Walmart announced to cut supplier packaging by 5%. The move would save the company $3.4 billion. Wal-Mart would begin to "measure" its suppliers in 2008 and recognize them for using less packaging, utilizing more effective materials and sourcing the materials more efficiently. The move would also cut the amount spent on packaging in the supply chain by $10.98 billion overall, the company said. (Source: Reuters, September 22, 2006; Traffic World, October 2, 2006; p. 17)

3) Walmart saves millions on toy package redesign. Saved the company $3.5 billion in transportation costs last holiday season due to more efficient packaging of toys. By reducing the amount of packaging used for toys made in Asia and shipped to the US, the retailer utilized 727 fewer ocean containers and saved 1,300 barrels of oil. Developing sustainability index to measure the impact of its goods on the environment. (Source: WT 100, Nov. 2009; p. 8)

Case 4-More Lessons from Apple: iPhone X Logistics

By APICS CEO Abe Eshkenazi, CSCP, CPA, CAE

…

Companies, like Apple, have embraced and invested in their supply chains to gain competitive advantages. For example, consider how seriously Apple takes **delivery reliability**, which is defined by the APICS Dictionary as, "**A performance criterion that measures how consistently goods and services are delivered on, or before, the promised time**."

…

(https://www.ascm.org/ascm-insights/more-lessons-from-apple-iphone-x-logistics/)

iPhone X Delivery Faster Than Santa? The Secrets From Apple's Nerve Center

Forbes by David Phelen, Dec 28, 2017, 06:00pm
(Source, https://www.forbes.com/sites/davidphelan/2017/12/28/the-secret-apple-logistics-that-ensure-your-holiday-iphone-x-delivery/#181010337fe3)

Apple's Logistics Team's Commitment to Timely Delivery

• Analyzes millions of zip codes to find optimal delivery organizations for the UK, Europe, the Middle East, India, and Africa.

• Carriers range from national organizations to local companies.

• Planning begins for significant events like the iPhone X launch weeks in advance.

• System knows stock levels and delivery time, providing customers with delivery dates.

• Each carrier meets specific transportation security requirements.

• Last-gasp effort extended until Christmas Eve.

• Uses same-day carriers with stock from nearby distribution centers or stores.

• Commitment to perfectionists, despite customer complaints or disappointments.

The iPhone Isn't Made in China—It's Made Everywhere

The global supply chains behind Apple's smartphone show why trade deficits are so pointless as a measure of economic strength By Fred P. Hochberg Wall Street Journal Jan. 31, 2020

The trade deficit between the U.S. and China reached around Understanding the Trade Deficit between the U.S. and China.

• Trade deficits, often associated with American economic weakness, do not necessarily indicate economic strength.

• The iPhone, a Chinese export, includes components from various countries, benefiting the U.S. economy and companies like Apple.

• Currency fluctuations can affect trade deficits, making U.S. goods more expensive overseas and making imports cheaper.

• It is essential to approach bilateral trade deficits cautiously, as they do not provide a complete picture of economic health or international relations.

Case 5-FAA investigating Southwest over baggage weight data

The US Federal Aviation Administration is investigating how Southwest Airlines tracks the weight of checked bags on its flights. The FAA began its probe in February 2018, the FAA told CNN Business on Monday. "Since that time, the FAA has directed the development of a comprehensive solution to the methods and processes used by Southwest Airlines to determine this performance data," the FAA said. The Wall Street Journal first reported the story. It cited FAA officials and agency documents that indicated airline employees made mistakes that caused pilots to compute the wrong weight of planes at takeoffs.

The errors were described as "systemic and significant," occasionally causing the reported takeoff weights to be 1,000 pounds lower than the plane's actual weight. According to the FAA's weight & balance handbook, a safety guideline for airplane operators, excess weight on an aircraft can cause a variety of problems, including the need for a higher takeoff speed, reduced cruising speeds, decreased maneuverability and higher stress imposed on landing gear.

Southwest (LUV) said in a statement to CNN Business that there's an "ongoing effort to track and voluntarily report operational data to the FAA so that we can mitigate and eliminate any operational risks." But the airline added that it has already put in place controls and procedures to address weight and balance issues. Southwest said it has shared those measures with the FAA. "Southwest believes the controls and procedures we implemented throughout 2018 have enhanced our weight and balance program and resolved the issues that we originally reported to the FAA," the airline added.

The FAA has not linked any accidents to the weight discrepancies. But the agency said in its statement to CNN Business that it "will not close its investigation until it is satisfied that Southwest's corrective actions are consistent and sustained."

By Paul R. La Monica, CNN Business / 3:24 PM ET, Mon February 18, 2019
(https://www.cnn.com/2019/02/18/business/southwest-faa-investigation-checked-bags-weight/index.html)

Case 6-Yamato Transport Ltd. - Calculate Willing-To-Pay

Ski Transportation

In the Nagano Prefecture, delivery volume plummeted once the apple harvest was. During winter, drivers noticed how people carried their skis to resorts in the area. Lugging skis, boots, and poles to the ski lifts was obviously a miserable way to spend one's pastime, and drivers suggested offering a ski transportation service, which Yamato introduced in 1983. Yamato picked up the skis and delivered them slope side. The ski transportation service was a potentially attractive market for Yamato because Japan had more than 15 million skiers who on average went skiing 5.5 times per year, mostly on weekends.

The ski transportation market was much smaller than the 393-billion-yen market for ski equipment. The average skier spent more than 100,000 yen annually, much of it on skis, which cost 70,000 yen and were bought about every four years. An alternative was to rent skis from one of the many resorted-based rental places for about 3,000 yen a day. Following the success of the ski transportation service, Yamato transported about 5 million skis a winter-a golf bag delivery service was launched the next year.

Super Express Takkyubin

Yamato was good at reaching quickly when new opportunities arose. An example was the creation of "Super Express Takkyubin," a service introduced in Nov. 2003 for which Yamato used planes from All Nippon Airways (ANA) **to guarantee next-day delivery to distant locations**. Super Express became attractive after the government started to enforce **lower speed limits on highways**, which made it difficult to move goods using truck from Hokkaido to Tokyo overnight. Hokkaido, the northern island in Japan, was **a major source of seafood and agricultural products**, the timely delivery of which was crucial.

For example, **scallops** caught in the Sea of Okhotsk sold in Tokyo at **250 yen when fresh**, while frozen or boiled scallops valued at **150 yen**. The sale of fresh scallops, however, depended on the availability of overnight transportation. For Super Express to become a financial success, Yamato needed to identify demand for shipping services from Tokyo to Hokkaido, as it would be prohibitively expensive to charter planes (**3 million yen in one way**) that only transported goods in one direction. A customer survey showed that chocolate producers based on the northern island often bought **cacao from vendors in Tokyo** area. Yamato's Super Express also promised to be popular with **Hokkaido department stores**, which carried a more limited selection of items and depended on the rapid shipping of products from large stores in Tokyo.

Yamato conducted a **market survey** among a representative sample of customers to determine the feasibility and pricing of the Super Express Takkyubin. The results of this survey reproduced in Table 1. Yamato estimated that there were 2,300 customers interested in transporting goods from Tokyo to Hokkaido. The pool of clients wanting to ship parcels from Hokkaido to Tokyo was somewhat smaller, probably about 1,500 customers. In both directions, each client was expected to transport ten boxes in average using Boeing 777 aircraft with a transport capacity of **about 4,000 packages** from ANA.

Table 1 Takkyubin Super Express Market Survey

Tokyo to Hokkaido		Hokkaido to Tokyo	
WTP (Yen)	# of respondents	WTP (Yen)	# of respondents
400	2	400	0
600	5	600	0
800	6	800	9
1,000	15	1,000	16
1,200	3	1,200	8
1,400	1	1,400	3
1,600	1	1,600	8
1,800	0	1,800	1
2,000	4	2,000	1
2,200	0	2,200	0
Total	37	Total	46

Home Work #1: Yamato Case - Pricing policy (Individual work)

Due date: See class schedule on page 10 and 11**.**

Name:

Tokyo to Hokkaido

WTP (Yen)	# of respondents	Demand at Each Price	Demand (scaled) at Each Price	Demand (scaled) for Box at Each Price	Airplanes Needed Rounded (1)	Load Factor [%] (2)	Revenue (Yen)	Cost (Yen)	Profit (Yen)	Profit from Round Trip (Yen)
400	2	37	2300	23000	6				A	A+B
600	5	35	2176	21757					C	C+D
800	6	30							E	E+F
1,000	15	24								
1,200	3	9								
1,400	1	6								
1,600	1	5								
1,800	0	4								
2,000	4	4								
2,200	0	0								

Hokkaido to Tokyo

WTP (Yen)	# of respondents	Demand at Each Price	Demand (scaled) at Each Price	Demand (scaled) for Box at Each Price	Airplanes Needed Rounded (1)	Load Factor [%] (2)	Revenue (Yen)	Cost (Yen)	Profit (Yen)
400	0	46	1500	15000	4				B
600	0	46							D
800	9	46							F
1,000	16	37							
1,200	8	21							
1,400	3	13							
1,600	8	10							
1,800	1	2							
2,000	1	1							
2,200	0	0							

(1) You could use the excel function key (=ROUNDUP (number, num_digit)) It means that the cell "G5" will be "=ROUNDUP (F5/4000,0)."

(2) Put the percentage number with one decimal point.

Q1: Choose WTP (Yen) based on your calculation to maximize the company's profit. (5 points)

Q2: How many aircraft(s) is (are) needed to maximize profit? (5 points)

Q3: Explain the reasons for your answer on Q1 and Q2 by comparing the load factor at the WTP that you chose with other WTPs for Tokyo to Hokkaido and v.v. (10 points)

Load factor = demand for box at the WTP / total capacity (B777: 4,000 boxes)

Ex. At 400 yen from Tokyo to Hokkaido, the LF is "23,000 over (6 airplanes x 4,000 boxes)."

Q4: Describe recommendations for future market development considering all the information you calculated. Think about it if Yamato applies different WTPs to get more business opportunities. Which WTP? Why? (10 points)

Deliverables: Graded Components (See the following rubric):

1. Use an excel sheet on CANVAS to show the calculation of each cell.
2. Answer each question from Q1 to Q4.
3. Upload the excel sheet on CANVAS.

Home Work for Yamato Case Rubric

Learning Outcome	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations	Awarded/ Possible Points
	≥ 90%	≥ 80%	≥ 70%	< 70%	
Excel sheet: Calculation	Showing all of calculation of each cell and calculated most of cells correctly.	Showing some of calculation of each cell and calculated some of cells correctly.	Showing a part calculation of each cell and calculated a part of cells correctly.	Showing only the number not included excel function key to calculate.	**/35 (50%)**
	(35-32 pts)	**(28 pts)**	**(25 pts)**	**(< 24 pts)**	
Name* and Format	Write student name. Excel calculations and answers are easy to read.	Write student name. Excel calculations and answers are easy to read.	Write student name. Excel calculations and answers are difficult to read.	Missing write name. Or excel calculations and answers are very difficult to read.	**/5 (2%)**
	(5 pts)	**(4 pts)**	**(3.5 pts)**	**(0 pts)**	
Q1 to Q4	Problem explicitly and concisely stated; factors driving the reason for Q4; explains the significance of the reason.	Problem clearly stated but little discussion of factors driving the reason for Q4; explains the significance of the reason.	Problem not well stated or unclear; little to no discussion of factors driving the reason for Q4; explains the significance of the reason but not well stated or unclear.	Problem not well stated or missing; driving factors not identified a reason for Q4 without explanation.	**/30 (43%)**
	(30 – 27 pts)	**(24 pts)**	**(21 pts)**	**(< 21 pts)**	
				Total Score	**/70 (100%)**

* If you submit with another student's name, your score 0 over 70.

Case 7-Home Work #2: DHL Global Forwarding – Consolidation Program

(Source, IVEY (2017), DHL Global Forwarding: Consolidation program)

On the evening of October 13, 2015, Amit Datta, regional director of DHL Global Forwarding (DGF), was gazing out the window of his office in Bengaluru, India. His day had been very hectic, and his last meeting, which was about DGF's consolidation program, had run for two hours. DGF provided air and ocean freight forwarding services. In September, Datta's team had successfully tested the consolidation program in three Indian cities: Hyderabad, Bengaluru, and Chennai. In the last meeting, three months ago, the team had suggested that Datta consolidate shipments from individual clients in the respective city. Such aggregation helped DGF to get cheaper shipment rates from airlines. While glancing through the respective consolidation teams' reports, several questions occurred to Datta: Was DGF paying more to airlines on specific days of the week in these three cities? Should the company continue to run the consolidation program in these locations? How could DGF consolidate its clients' requirements across these cities? Would such consolidation benefit the company? Datta looked at his calendar and realized that the next team meeting was only one day away; before that meeting, he would have to create a new consolidation program.

Datta and his team specialized in consolidation of the orders at DGF, and assisted clients on a daily basis. A typical weekly dispatch schedule was made available to all clients (see Table 1). This document depicted the company's turnaround times. For instance, if a shipment was delivered to DGF on day one, the same shipment would be dispatched on day two (the next day). However, if day two was a holiday, then the shipment would be dispatched on the subsequent business day. It took DGF approximately 48 hours to ship goods from India to Frankfurt by air.

Datta was responsible for collecting information about clients' requirements for the upcoming month (see Table 2). These requirements from individual clients in Hyderabad, Bengaluru, and/or Chennai were consolidated at DGF's warehouses in the clients' respective locations. Shipments were dispatched directly to Frankfurt using cargo space available in passenger airlines. Among the four passenger airlines used by DGF, three were from the Middle East and one was from Europe. The availability of various flight options from all three points of origin (i.e., airports) in South India to the chosen destination (i.e., Frankfurt) drove the choice of day for shipping (see Table 3). The airlines charged DGF based on the weight of these aggregated shipments.

However, Datta knew that on certain days of the week, the shipments accumulated at one of the three locations, which was not helpful in achieving economies of scale. He wondered if DGF could achieve greater cost efficiencies by routing the goods through another airport instead, using overnight road transportation to move the shipments to DGF's warehouse in another city at an additional cost (see Table 4). The industry norm was a maximum transit time of five working days between the point of origin and the destination airport.

Although Datta worried somewhat about potential delays due to traffic congestion and/or accidents while moving shipments by road, he remembered a company report that estimated the possibility of such incidents at no more than 2 per cent in South India. If such delays did occur, DGF was required to pay clients a penalty equivalent to the shipping cost of the delayed consignments.

Based on his ideas about road transportation, Datta hoped to formulate a plan that would help DGF save money through this modified consolidation; yet with only one day to do so before the next team meeting, he knew he would have to work late into the night. He asked his secretary for some strong coffee, and sat down at his desk to begin.

Table 1: Weekly consolidation shipment schedule

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Demand accumulated across the week		Saturday and Monday		Tuesday and Wednesday		Thursday and Friday	Holiday

Source: Company materials.

Table 2: Shipments planned by various clients for Frankfurt

Origin	Client	Shipment Size per Day (in kg)
Hyderabad	A	100
Hyderabad	B	1,000
Hyderabad	C	300
Bengaluru	D	100
Bengaluru	E	1,500
Bengaluru	F	400
Bengaluru	G	250
Bengaluru	H	50
Bengaluru	I	200
Chennai	J	700
Chennai	K	300
Chennai	L	500
Chennai	M	2,000

Source: Company materials.

Table 3: Airline schedule to Frankfurt

	Origin	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Etihad Airways	Hyderabad						Available	
	Bengaluru		Available		Available			
	Chennai				Available			
Qatar Airways	Hyderabad							
	Bengaluru		Available				Available	
	Chennai		Available					
Lufthansa	Hyderabad		Available					Available
	Bengaluru	Available	Available	Available	Available	Available	Available	Available
	Chennai	Available	Available	Available	Available	Available	Available	Available
Emirates	Hyderabad	Available	Available	Available	Available	Available	Available	Available
	Bengaluru	Available	Available	Available	Available	Available	Available	Available
	Chennai	Available	Available	Available	Available	Available	Available	Available

Source: Company materials.

Table 4: Road transportation costs for DGF (₹ PER KG)

	Hyderabad	Bengaluru	Chennai
Hyderabad	–	8	9
Bengaluru	8	–	4
Chennai	9	4	–

Source: Company materials.

Freight forwarding was usually classified into four categories: rail, road, sea, and air. Due to many different factors (e.g., competition and volatility in oil prices), forwarders faced huge challenges in retaining their market share. A forwarder helped clients transport their goods to the desired destinations through a combination of various transportation modes, and charged clients according to the weight of the consignment (see Table 5). To achieve economies of scale, consignments from different clients were aggregated. Thus, 3PL providers focused on reducing transportation costs through consolidation programs.

Table 5: Rates offered by airlines

Airline	Etihad Airways	Lufthansa	Emirates	Qatar Airways
Shipment size in kilograms (kg)	Rate (₹ per kg)			
≤100	135	150	145	130
101–500	125	135	130	120
501–1000	105	120	110	100
>1,000	95	110	100	90

Source: Company materials.

Home Work #2: DHL Global Forwarding – Consolidation Program (Individual work)

Can Datta create a freight forwarding program weekly using the ILP (Integer Linear Programming) model using Excel?

1. What is the objective function? Explain it with a mathematical formula and variables. (5 points)

2. What are the appropriate decision variables and parameters? Explain it with mathematical formulae and variables. (10 points)

3. What are the constraints? Explain it with mathematical formulae and variables. (10 points)

4. State appropriate assumptions and discuss the approach to the problem. (15 points)

5. Calculate the minimum transportation cost with road transportation using Excel file, which is in in CANVAS (file name: DHL-Global_FWD_0.xls). (30 points)

Deliverables for the report: You have to submit separately for the answer using Word file for Questions 1, 2, 3, and 4; and Excel file for Question 5. See the graded Components for the report (page 42).

1. Cover Page for Word file: Include your name, course name, homework name, and date.
2. Answers using Word file for Questions 1, 2, 3, and 4 with formulae and variables explanation.
3. Answers using Excel file for Question 5 with your name, and date.

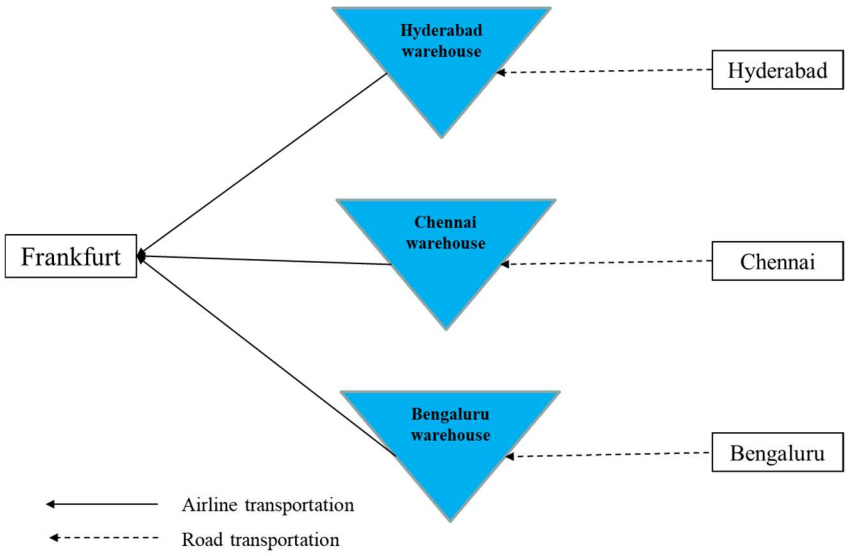


***Figure 1*: DGF's proposed transportation scenario without road transportation**

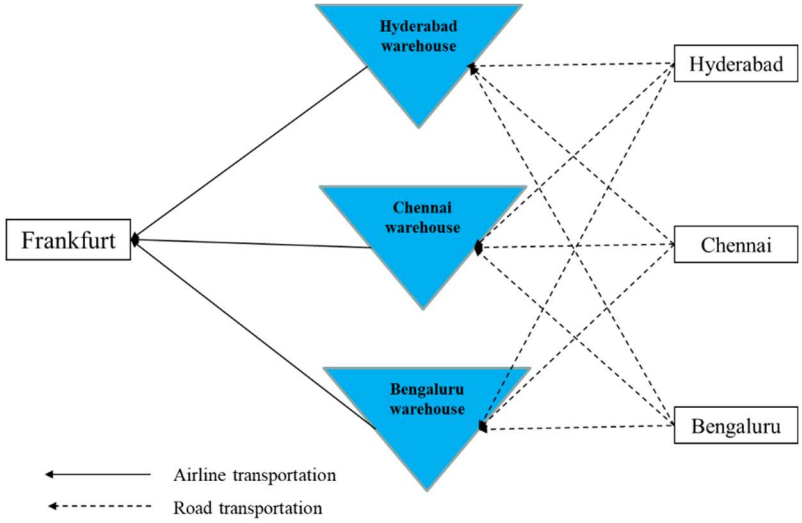


***Figure 2*: DGF's proposed transportation scenario with road transportation**