

**Commerce 4OT3  
Transportation and Warehousing Management  
Winter 2025 Course Outline**

**Operations Management Area  
DeGroot School of Business  
McMaster University**

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***COURSE OBJECTIVES***

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- To understand the strategic role of transportation and warehousing functions and operations within businesses and the supply chain
  - To develop operations models and solutions methods for common logistics problems
  - To gain hands-on experience in using related analytics tools such as Excel Solver and SAP
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***INSTRUCTOR AND CONTACT INFORMATION***

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**Fr: 14:30pm - 17:20pm**

**Dr. Yanling Zhuang**

Instructor

[zhuany30@mcmaster.ca](mailto:zhuany30@mcmaster.ca)

Office: TAB 104A

Office Hours: By email

Class Location: ABB 164

**TA**

Alireza Motallebi Nasrabadi

[motallea@mcmaster.ca](mailto:motallea@mcmaster.ca)

Office: TBA

Office Hours: By email

**Course website:** <http://avenue.mcmaster.ca>

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***COURSE ELEMENTS***

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Credit Value: 3	Leadership: Yes	IT skills: Yes	Global view: Yes
A2L: Yes	Ethics: Yes	Numeracy: Yes	Written skills: Yes
Participation: Yes	Innovation: Yes	Group work: Yes	Oral skills: Yes
Evidence-based: Yes	Experiential: Yes	Final Exam: No	Guest speaker(s): Yes

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## ***COURSE INFORMATION***

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**Lectures:** 3hr x1/wk

**Course Delivery Mode:** In-person

**Course Description:** Transportation and warehousing play a critical role in the supply chain and the economy. They are key enablers for customer-oriented strategies such as same-day or overnight deliveries. This course will help students understand the strategic role of transportation and logistics. The course covers concepts such as transportation costing and pricing; warehouse equipment and operations; warehouse layout; order processing; and transportation network design and optimization. The course will also use SAP.

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## ***MEETING DETAILS***

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C01: Meets from 14:30 p.m. to 17:20 a.m. every Friday

The **first class** for this section will be:

C01: Friday, January 10, 2025

Punctuality is the sign of a true professional and shows self-discipline and respect for others. Please make whatever arrangements are necessary to begin work at 14:30 p.m.

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## ***IMPORTANT LINKS***

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- [Mosaic](#)
- [Avenue to Learn](#)
- [Student Accessibility Services - Accommodations](#)
- [McMaster University Library](#)

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## ***COURSE LEARNING OUTCOMES***

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Upon successful completion of this course, students will be able to complete the following key tasks:

- Define and use the basic terminology of transportation and warehousing
- Assess how customer value can be created through logistics
- Familiarity with different warehouse equipment and layout
- Understand operations and decisions during the cross docking and last-mile delivery
- Choose transportation modes and design transportation networks
- Be familiar with SAP-related Transportation and Warehousing transactions

### ***REQUIRED MATERIALS AND TEXTS***

#### **Required:**

- Course materials available on avenue to learn: <http://avenue.mcmaster.ca>
- [WDS] John J. Bartholdi III. Warehouse & Distribution Science, 2019. Available for free: <http://warehouse-science.com/>
- [TSCP] Robert A. Novak, Brian Gibson, Yoshinori Suzuki and John J. Coyle. Transportation: A Global Supply Chain Perspective, 9th Edition, Cengage Learning, 2019.
- [WM] Richards, Gwynne. Warehouse Management: A Complete Guide to Improving Efficiency and Minimizing Costs in the Modern Warehouse, 3rd Edition. Kogan Page, 2018.

#### **Optional:**

- [FE] Edward Frazelle. World-class Warehousing and Material Handling. New York: McGraw-Hill; 2002.
- [HM] Heinrich Martin. Warehousing and Transportation Logistics, Kogan Page, 2018.

### ***CLASS FORMAT***

This is an in-person 3-hour course. The three hours will consist of rapid problem-solving, mini-lecture, lengthier discussion, and more in-depth applied exercises (not necessarily always in this order). There will be a short break part way through at a convenient time based on what we are working on. Please use this time to take care of personal needs of various kinds.

### ***COURSE EVALUATION***

Assignments should be done individually. Missed tests/exams will receive a grade of zero unless the student has submitted and been approved for a Notification of Absence or MSAF. Late assignments will be penalized 10% for each day they are late. Your final grade will be calculated as follows:

### Grading Components and Weights

EVALUATIONS	WEIGHT	DESCRIPTION
SAP Assignments	24%	Submission of 4 individual SAP assignments to Avenue by the due date and time; 6% each
Tests	40%	Completion of 2 individual tests during the course; 20% each
Group Project	36%	Submission of team project proposal (6%), PowerPoint presentation (10%), and report (20%) to Avenue by the due date and time
Total	100%	

NOTE: The use of a McMaster standard calculator is allowed during examinations in this course. See McMaster calculator policy at the following URL:

[www.mcmaster.ca/policy/Students-AcademicStudies/UndergraduateExaminationsPolicy.pdf](http://www.mcmaster.ca/policy/Students-AcademicStudies/UndergraduateExaminationsPolicy.pdf)

### *COURSE DELIVERABLES*

#### **Assignments (24%, individual)**

There will be four SAP Drills.

#### **Tests (40%, individual)**

There will be two tests. The first will cover material on warehousing and the second on transportation. The tests will cover material from the textbooks, readings, lectures and class discussion.

#### **Team Project (36%, group)**

Groups of students will work on solving a project. As an example, the project goal is to identify the issues of the processes or operations associated with Transportation and/or Warehousing management within identified companies or supply chain. This will be done by studying the existing processes and facility setup for storage and weekly customer deliverables and evaluating against the knowledge gained through the course to identify possible process improvement opportunities.

The end of course presentation project report should include

- an executive summary,
- introduction that includes a brief literature of the sector,
- problem statement,
- modelling and analysis and
- recommendations as well as possible implementations risks, costs, or limitations.

- The report is expected to include a description, or flow charts, of the current processes and how your solution will change them. There is no page limitation. However, you are expected to be concise and put long tables and detailed diagrams, such as flow charts, in appendices.

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### ***LATE ASSIGNMENTS***

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In-class work cannot be submitted after the class is over. Make sure you upload/hand-in any papers, worksheets, and so on before you leave the classroom.

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### ***COMMUNICATION AND FEEDBACK***

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Students who wish to correspond with instructors or TAs directly via email must send messages that originate from their official McMaster University email account. This protects the confidentiality and sensitivity of information as well as confirms the identity of the student.

All students must receive feedback regarding their progress prior to the final date by which a student may cancel the course without failure by default.

- For Level 1 and Level 2 courses, this feedback must equal a minimum of 20% of the final grade.*
- For Level 3 courses and above, this feedback must equal a minimum of 10% of the final grade.*

Instructors may solicit feedback via an informal course review with students by Week #4 to allow time for modifications in curriculum delivery.

Students who have concerns about the course content, evaluation methods, or delivery should first reach out to the course instructor. If your concern remains unresolved after speaking with the instructor, you may then reach out to the relevant Area Chair for further consideration.

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### ***REQUESTING RELIEF FOR MISSED ACADEMIC WORK***

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In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar [“Requests for Relief for Missed Academic Term Work”](#) and the link below\*;

<http://ug.degroot.mcmaster.ca/forms-and-resources/missed-course-work-policy/>

\* Non-Commerce students must follow the Missed Course Work protocols outlined by their home faculty and Program Office.

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### ***COURSE MODIFICATION***

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From time to time there may be a need to remove/add topics or to change the schedule or the delivery format. If these are necessary, you will be given as much advance notice as possible.

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### ***GENERATIVE AI***

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Students may freely use generative AI in this course so long as the use of generative AI is referenced and cited following citation instructions given in the syllabus. Use of generative AI outside assessment guidelines or without citation will constitute academic dishonesty. It is the student's responsibility to be clear on the expectations for citation and reference and to do so appropriately.

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### ***ACADEMIC INTEGRITY***

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You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. **It is your responsibility to understand what constitutes academic dishonesty.**

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. For information on the various types of academic dishonesty please refer to the [Academic Integrity Policy](#).

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

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## ***AUTHENTICITY/PLAGIARISM DETECTION***

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In this course we will be using a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. Avenue to Learn, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software. **All submitted work is subject to normal verification that standards of academic integrity have been upheld** (e.g., on-line search, other software, etc.). For more details about McMaster's use of Turnitin.com please go to [www.mcmaster.ca/academicintegrity](http://www.mcmaster.ca/academicintegrity).

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## ***COURSES WITH AN ON-LINE ELEMENT***

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In this course we will be using on-line elements (e.g. e-mail, Avenue to Learn, LearnLink, web pages, capa, Moodle, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

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## ***CONDUCT EXPECTATIONS***

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As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the [Code of Student Rights & Responsibilities](#) (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online**.

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

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### ***ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES***

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Students with disabilities who require academic accommodation must contact [Student Accessibility Services](#) (SAS) at 905-525-9140 ext. 28652 or [sas@mcmaster.ca](mailto:sas@mcmaster.ca) to make arrangements with a Program Coordinator. For further information, consult McMaster University's [Academic Accommodation of Students with Disabilities](#) policy.

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### ***ACADEMIC ACCOMMODATION FOR RELIGIOUS, INDIGENOUS OR SPIRITUAL OBSERVANCES (RISO)***

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Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the [RISO](#) policy. Students should submit their request to their Faculty Office **normally within 10 working days** of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

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### ***COPYRIGHT AND RECORDING***

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Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors.

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.



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### ***EXTREME CIRCUMSTANCES***

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The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, Avenue to Learn and/or McMaster email.

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### ***ACKNOWLEDGEMENT OF COURSE POLICIES***

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Your enrolment in Commerce 4OT3 will be considered to be an implicit acknowledgement of the course policies outlined above, or of any other that may be announced during lecture and/or on A2L. **It is your responsibility to read this course outline, to familiarize yourself with the course policies and to act accordingly.**

Lack of awareness of the course policies **cannot be invoked** at any point during this course for failure to meet them. It is your responsibility to ask for clarification on any policies that you do not understand.

**COURSE SCHEDULE (SUBJECT TO POSSIBLE MODIFICATION)**

**Commerce 4OT3  
Transportation and Warehousing Management  
Winter 2025 Course Schedule**

Week	Date	Topic	Readings	Assignments
1	Jan. 10	<b>Discuss:</b> Class Outline, Schedule, Participation, Courseware <b>Lecture:</b> Role of Transportation and Warehousing in the Supply Chain and Economy	2 TSCP 1 WDS 1 WM	Selecting team members
2	Jan. 17	<b>Lecture:</b> Warehouse Equipment and Operations	2-3 WDS 3 WM	
3	Jan. 24	<b>Lecture:</b> Warehouse Layout Part I	6-9 WDS 4, 9 WM	SAP Drill I (DUE: on Jan. 30 at 24:00 pm)
4	Jan. 31	<b>Lecture:</b> Warehouse Layout Part II		Project proposal (DUE: on Feb. 6 at 24:00 pm)
5	Feb. 7	<b>Lecture:</b> Order Picking	10-11 WDS 5-6 WM	SAP Drill II (DUE: on Feb. 13 at 24:00 pm)
6	Feb. 14	<b>Lecture:</b> Automation	12 WDS	Test #1
7	<b>Mid-term recess</b>			
8	Feb. 28	<b>Lecture:</b> Cross Docking	13 WDS	SAP Drill III (DUE: on Mar. 6 at 24:00 pm)
9	Mar. 7	<b>Lecture:</b> Modes of Transportation & Global Transportation	5-8, 11 TSCP	Project work-in-progress report (optional) (DUE: on Mar. 13 at 24:00 pm to get feedback from the instructor and TA)
10	Mar. 14	<b>Lecture:</b> Last-Mile Delivery	Handouts	SAP Drill IV (DUE: on Mar. 20 at 24:00 pm)

11	Mar. 21	<b>Lecture:</b> Transportation Network Design and Optimization <b>Discuss:</b> Feedback from the instructor and TA	Handouts	
12	Mar. 28	<b>Lecture:</b> Performance & Risk Management	3, 9, 10 TSCP 14-16 WDS 13 WM	Test #2
13	Apr. 4	<b>Group Project Presentation</b>		Project report and Presentations (DUE: on Apr. 11 at 24:00 pm)

### **Group Project Guidelines**

#### **Objective:**

To present a topic that investigates the application and the issues of the processes or operations associated with transportation and/or warehousing management within identified companies or supply chain, and propose potential solution procedures for improvement.

#### **Tasks:**

1. You are expected to form a team of 3-4 students and submit a proposal for a presentation on the topic. The proposal should include the names of the team members, their titles, a brief description of the background, the topic/issue to be explored, and references.
2. Student teams will present at the last class and submit their project report one week after the last class.
3. You may search and gather relevant information from a variety of sources, but you may not use the published or solved work of others.
4. You need to have a clear focus and organize your presentation in a meaningful way.
5. You may submit a project progress report in week 10 to describe your progress and receive feedback from the instructor and TA, but this is optional.
6. Each team should prepare a well-designed PowerPoint presentation file with an approximate 15-20 minute presentation (depending on the number of groups). The file should be submitted to A2L along with the project report.
7. There will be 5 minutes for questions and answers for each presentation. All group members should participate in the presentation.
8. Student presentations will be evaluated by the instructor and classmates based on clearly defined objectives, business value of the project, interesting content and useful references, quality of presentation and knowledgeable discussion, etc.