CARLETON UNIVERSITY
SPROTT SCHOOL OF BUSINESS
BUSI 4331 A
2020/FALL
AI AND E-SUPPLY CHAIN TECHNOLOGY AND MANAGEMENT

Instructor: **Okhaide Akhigbe PhD**

Office Hours: Online on Tuesdays from 6pm to 7pm
(Email for appointment).

Email: okhaide.akhigbe@carleton.ca(only means of online communication)

Modality: In person lecture
Thursdays 6:05pm – 8:55pm
Azrieli Theatre Room 102

TA: TBD
Email: TBD

Pre-requisites & precluded Courses: Third year standing and BUSI 2301 and BUSI 2400 with a grade of C or higher in each.

Course Calendar description from the 2021/2022 University calendar: Acquire hands-on skills to design and develop innovative business models and Artificial Intelligence (AI) systems on top of big real-world data aiming to create value and solve problems that would enhance the performance of e-supply chains along its multiple dimensions.

Course Description: ICT is a core capability that is essential for supply chain integration. This course discusses the state-of-the-art ICT that enables the integration of different operational functions such as sourcing, innovation, product development, manufacturing, and logistics across different entities within a firm or across different firms for effective and efficient management of the supply chain of goods and services. This course strikes a balance between the theoretical underpinnings of and hands-on experience on such

technologies. The knowledge body in this course is useful for students of all business concentrations.

Learning Outcomes:
1. Developing basic understanding of the foundations of e-SCM strategic and operational issues in the context of established and emerging technologies.

2. Hands-on experience with SCM technologies.

Reading(s)/Textbook(s)
Textbook 1: David Frederick Ross, Introduction to Supply Chain Management Technologies, Second Edition, CRC Press, 2010. ISBN-13: 9781439837535.

Textbook 2: Kenneth C. Laudon and Carol Traver, E-Commerce 2015, Eleventh Edition, Prentice Hall, 2015. ISBN-10: 0133507165 • ISBN-13: 9780133507164

Reading(s)/Articles: Academic journal and practitioner white paper articles as indicated in the course schedule.

Software Platforms: Software platforms, indicated in the schedule, will be used.

Class Presentation Slides: Presentation slides, where used, will be made available via Brightspace.

Course Requirements & Methods of Evaluation (including due dates):

GRADE DISTRIBUTION

Attendance & Participation	10%
Business Plan Presentation	10%
Business Plan Report	30%
Term Paper Presentation	10%
Term Paper	40%

ATTENDANCE & PARTICIPATION (10%)
Attendance and participation are essential for the individual's and collective learning experience in the classroom. This explains the relatively high weight of this activity in the grade distribution (10% of overall grade). **You are expected to read the material(s) before class, answer the online practice questions and come prepared for engaged, informed, and well-reasoned discussions.** Quality contributions go beyond merely stating the facts and repeating information from the readings to generating intellectually stimulating remarks and questions that help the classroom engage more with the course material.

BUSINESS PLAN REPORT (30%) AND PRESENTATION (10%)
Based on the foundations established in the first four weeks, student groups will formulate an innovative AI and e-Commerce business plans, which will later (in the term paperwork) be fully built and implemented as an e-Commerce store using Shopify toolbox. Student groups will write a report detailing their business plans and will make presentations showcasing the highlights of their business plans. Rubrics will be provided on Brightspace. Submit your business model paper as a Microsoft Word document and presentation slides in Brightspace. The deadline to submit the term paper and presentation slides is **October 14th (Cohort 1) and October 20th (Cohort 2), 2020 at 11:59 pm**. Late submissions will be deducted 20% of the mark for each day of delay.

TERM PAPER (40%) AND PRESENTATION (10%)
In the term paperwork, student groups will further develop their business plans by integrating AI, IoT, and Chatbot capabilities to create value and add a strategically competitive edge. Student groups will write a term paper discussing the strategic and operational advantages as well as challenges of integrating AI, IoT, and Chatbot technologies in their business plans. In their term paper presentations, student groups will present their fully developed Shopify stores and term papers. Rubrics will be provided on Brightspace. Submit your term paper as a Microsoft Word document and presentation slides by email in Brightspace. The deadline to submit the term paper and presentation slides is **December 1st (Cohort 2) and December 8th (Cohort 1) 2020 at 11:59 pm**. Late submissions will be deducted 20% of the mark for each day of delay. Students who do not obtain at least 50% on their term work prior to writing the term paper will not be allowed to write a term paper and will thus fail the course.

GENERAL GUIDELINES

STUDENT GROUPS
- Instructor will form student groups and make the group list available during the first class.

- No changes in student groups are allowed.

ATTENDANCE
- An online practice test with multiple choice and true/false questions based on the readings for the week will be made available in the first 5 minutes of every class. Students are expected to answer all questions in order to get the allocated participation marks for the week.

- Class attendance is highly important and encouraged.

VALID EXCUSES
- According to University policy, the only valid excuse for missing a deadline is for medical reasons or death in the family and must be documented with a medical certificate. Any other reason (such as travel, etc.…) will not be considered. In such circumstances, separate arrangements will be made. If you miss a deadline for a reason that is not deemed as legitimate, your mark will be zero.

Course Schedule

Wk	Date	Topic	Course Material
1	September 9th, 2021	**Class:** • Strategic supply chain	• **Textbook 1:** Chapter 1
2	September 16th, 2021	**Class:** • Supply chain technologies: An overview	• **Textbook 2:** Chapter 9
3	September 23rd, 2021	**Class:** • E-Commerce Business Models	• **Textbook 2:** Chapter 2
4	September 30th, 2021	**Class:** • Supply Chain Integration • Enterprise Resource Planning (ERP) Systems	• **Textbook 1:** Chapter 3 (up to page 90) • **Textbook 1:** Chapter 4
5	October 7th 2021	**Lab:** • e-Commerce ERP end-to-end implementation.	• **Technology:** Shopify • **Exercise:** start online storefront, build, and manage inventory, manage logistics, customer relationship management, run and manage sales transactions.
6	October 14th 2021	**Students Presentations: Business Model Presentation (Cohort 1)**	
7	October 21st 2021	**Students Presentations: Business Model Presentation (Cohort 2)**	
	October 25th - 29th, 2021	**Fall Break. Class Suspended**	
8	November 4th, 2021	**Class:** • Internet of Things (IoT) for Supply Chain	1. Bendaya, M., Hassini, E., & Bahroun, Z. 2019. Internet of things and supply chain management: A literature review. **International Journal of Production Research**, 57(15–16): 4719–4742. 2. Porter, M. E., & Heppelmann, J. E. 2014. Managing the Internet of Things: How smart, connected products are changing the competitive landscape. **Harvard Business Review**, 92(11): 64– 88.
9	November 11th, 2021	**Class:** Artificial Intelligence (AI) for Supply Chain	1. Min, H. 2010. Artificial intelligence in supply chain management: Theory and applications. **International Journal of Logistics Research and Applications**, 13(1): 13–39. 2. Calatayud, A., Mangan, J., & Christopher, M. 2019. The self-thinking supply chain. **Supply Chain Management: An International Journal**, 24(1): 22–38. 3. Craig, W. 2018. The supply chain gets smarter. MWD Advisors White Paper.
10	November 18th, 2021	**Class:** • Intelligence Conversational Systems (Chatbot) for Supply Chain	1. Shum, H. yeung, He, X. dong, & Li, D. 2018. From Eliza to XiaoIce: challenges and opportunities with social chatbots. **Frontiers of Information Technology and Electronic Engineering**, 19(1): 10–26. 2. Greenberg, P. 2018. Chatbots: Conversation for all of us. Pitney Bowes White Paper.

Wk	Date	Topic	Course Material
11	November 25th, 2021	**Lab:** • Hands-on application AI in Supply Chain **Class:** • Term Paper Presentation Workshop	• **Technology:** Microsoft Power Virtual Agent. • **Exercise:** Interactive demos on AI to create and administer an interactive chatbot for a supply chain website.
12	December 2nd 2021	**Student Term Paper Presentation 1**	
13	December 9th 2021	**Student Term Paper Presentation 2**	

Contribution to Learning Goals of the Program (BCom, BIB):

Program Learning Goal	Competencies Not Covered	Competencies Introduced (only)	Competencies Taught But Not Assessed	Competencies Taught and Assessed
		CHECK (X) ONE PER ROW		
BC1 Knowledge *Graduates will be skilled in applying foundational business knowledge to appropriate business contexts.*				X
BC2 Collaboration *Graduates will be collaborative and effective contributors in team environments that respect the experience, expertise and interest of all members.*				X
BC3 Critical Thinking *Graduates will be discerning critical thinkers, able to discuss different viewpoints, challenge biases and assumptions, and draw conclusions based on analysis and evaluation.*				X
BC4 Communication *Graduates will be effective and persuasive in their communications.*				X
BI5 Global Awareness (BIB ONLY) *Graduates will be globally minded.*				X

ADDITIONAL INFORMATION

Course Sharing Websites
Materials created for this course (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

Required calculator in BUSI course examinations
If you are purchasing a calculator, we recommend any one of the following options: Texas Instruments BA II Plus (including Pro Model), Hewlett Packard HP 12C (including Platinum model), Staples Financial Calculator, Sharp EL-738C & Hewlett Packard HP 10bII

Group work
The Sprott School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, follower-ship and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Your professor may assign one or more group tasks/assignments/projects in this course. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 57-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52
F = Below 50			

Grades entered by Registrar:
WDN = Withdrawn from the course
DEF = Deferred

Academic Regulations
University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:
http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/

Requests for Academic Accommodation
You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy obligation
Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website:

carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Religious obligation
Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: **carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf**

Academic Accommodations for Students with Disabilities
If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. **carleton.ca/pmc**

Survivors of Sexual Violence
As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and its survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: **carleton.ca/sexual-violence-support**

Accommodation for Student Activities
Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. **https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf**

For more information on academic accommodation, please contact the departmental administrator or visit: **students.carleton.ca/course-outline**

Academic Integrity
Violations of academic integrity are a serious academic offence. Violations of academic integrity – presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student – weaken the quality of the degree and will not be tolerated.

Process: If an alleged violation occurs, all relevant documentation will be forwarded to the Dean. If the allegation proves true, the penalties may include; a grade of Failure on the submitted work and/or course; academic probation; a refusal of permission to continue or to register in a specific degree program; suspension from full-time studies; suspension from all studies at Carleton; expulsion from Carleton, amongst others. **For a first offence, at a minimum, the penalty assigned will normally be a zero on the submitted work and at least a minimum full grade reduction of the final course grade. For a second offence, at a minimum, the penalty assigned will normally lead to a suspension from studies.**

Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy which is available, along with resources for compliance at: https://carleton.ca/registrar/academic-integrity/.

Sprott Student Services

The Sprott Undergraduate Student Services Office offers program advising and overall student success support. Our team is available to discuss your academic goals and your program progression plans. We can also work with you to develop strategies for success, including study skills for Business. If you experience any difficulty this term or if you would like to access support, please contact our team at bcom@sprott.carleton.ca or at bib@sprott.carleton.ca.

Centre for Student Academic Support

The Centre for Student Academic Support (CSAS) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning both inside and outside the classroom. CSAS offers academic assistance with course content, academic writing and skills development. Visit CSAS on the 4th floor of MacOdrum Library or online at: carleton.ca/csas.

Important Information:
- Students must always retain a hard copy of all work that is submitted.
- All final grades are subject to the Dean's approval.
- For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton CMail account. If you do not have or have yet to activate this account, you may wish to do so by visiting **https://carleton.ca/its/get-started/new-students-2/**