

**Business 9805 – Sustainable and Socially Responsible Operations
Management**

Winter 2023

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Wednesdays 1:00 p.m. – 4:00 p.m.
Location: Ivey 2120
(12 Sessions)

COURSE DESCRIPTION

This doctoral seminar surveys the contemporary research in (Environmentally) Sustainable and Socially Responsible Operations Management. It is meant to introduce students to state-of-the-art research in different domains/subfields of Sustainable OM, with the aim to provoke meaningful inquiry that can result in impactful research and journal publication. The course covers papers using both empirical and analytical modeling research approach, with more emphasis on analytical papers, including those using behavioral models and/or experiments.

COURSE OBJECTIVES

By the end of this course, doctoral students should have (a) an acute understanding of the basics in the theoretical and methodological development within Sustainable OM, (b) a clear awareness of the contemporary movements in the subfields, and (c) the skills necessary to evaluate, critique, and contribute new research to Sustainable OM.

METHODS OF EVALUATION/COURSE SCHEDULE/ATTENDANCE

30% - Class contribution
70% - Research project

Students must attend all classes. Any non-illness absence must be communicated to the instructor before the class. The minimum grade of the final project must be 80% and above.

Each student is required to read **all** the main assigned readings and actively participate in class discussions for each session. Each student will be individually assigned a specific paper on which the student will lead the class discussion (we will cover 2 to 3 papers in each session). Students should make a presentation to summarize their assigned papers. Specifically, the summary should include:

(a) Summary of the research question or problem the paper addresses

- (b) Strengths and limitations of the paper
- (c) Contribution to the field, and any major obvious and non-obvious links to other papers discussed in the same or earlier session of this seminar
- (d) Managerial implications of the results

Each student is also required to prepare one interesting follow-up research question that can be derived from the paper. This applies not only to the assignee but to all the class.

By the end of the course, students are expected to submit their research paper (in written form).

MATERIALS/REQUIRED READING

The reading list is included at the end of the course outline.

COURSE TIMELINE AND FORMAT

The course will be held in-person. The seminar will focus on the following topics/subfields of Sustainable OM.

- Closed-loop Supply Chain
- EPR Legislation
- Low-Carbon Economy
- Renewable Energy/Energy Efficiency
- Other Sustainable Topics (including Agricultural, EV adoption, Sustainable Sourcing etc.)
- Socially Responsible OM
- (If time allows) Special Topic: Behavioral OM and its application in Sustainable OM

There will be 4-6 papers in each topic, and so each topic will be discussed roughly across two seminars. However, specific time dedicated to each topic/paper will be flexibly adjusted depending on the progress of the in-class discussion. Therefore, specific assigned reading will be distributed via email before class.

ENROLLMENT RESTRICTIONS

Enrollment in this course is restricted to graduate students in the Ivey PhD Program, as well as any student that has obtained special permission to enroll in this course from the course instructor as well as the Graduate Chair (or equivalent) from the student's home program.

ACADEMIC OFFENCES: PLAGIARISM AND ACADEMIC INTEGRITY

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at <https://grad.uwo.ca/administration/regulations/13.html>

All required papers may be subject to submission for textual similarity review to the commercial plagiarism-detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

SUPPORT SERVICES: HEALTH AND WELLNESS

Students who are in emotional/mental distress should refer to Health and Wellness at Western University <https://www.uwo.ca/health/psych/index.html> for a complete list of options about how to obtain help. Additionally, students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate chair), program coordinator or other relevant administrators in their unit.

As part of a successful graduate student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your graduate degree. See <https://www.uwo.ca/health>.

ACCESSIBLE EDUCATION WESTERN (AEW)

Western is committed to achieving barrier-free accessibility for all its members, including graduate students. As part of this commitment, Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective graduate program.

Graduate students with disabilities (for example, chronic illnesses, mental health conditions, mobility impairments) are strongly encouraged to register with Accessible Education Western (AEW), a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both AEW and their graduate programs (normally their Graduate Chair and/or Course instructor) to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction.

READING LIST

This is the tentative reading list.

Closed-loop Supply Chain

Bhattacharya S, Guide Jr VDR, Van Wassenhove LN (2006) Optimal order quantities with remanufacturing across new product generations. *Production and Operations Management* 15(3):421–4

Guide VDR Jr, Teunter RH, Van Wassenhove LN (2003) Matching demand and supply to maximize profits from remanufacturing. *Manufacturing Service Oper. Management* 5(4):303–316

Ray S, Boyaci T, Aras N (2005) Optimal prices and trade-in rebates for durable, remanufacturable products. *Manufacturing Service Oper. Management* 7(3):208–228.

Savaskan RC, Bhattacharya S, Van Wassenhove LN (2004) Closed-loop supply chain models with product remanufacturing. *Management Science* 50(2):239–25

EPR Legislation

Alev, I., Agrawal, V.V. and Atasu, A., (2020). Extended producer responsibility for durable products. *Manufacturing & Service Operations Management*, 22(2), pp.364-382.

Huang, X, Atasu, A and Toktay, LB, (2019). Design implications of extended producer responsibility for durable products. *Management Science*, 65(6), pp.2573-2590.

Rahmani, M., Gui, L. and Atasu, A., (2021). The implications of recycling technology choice on extended producer responsibility. *Production and Operations Management*, 30(2), pp.522-542.

Subramanian, R., Gupta, S. and Talbot, B., (2009). Product design and supply chain coordination under extended producer responsibility. *Production and Operations Management*, 18(3), pp.259-277.

Low-carbon Economy

Drake DF, Kleindorfer PR, Van Wassenhove LN (2016) Technology choice and capacity portfolios under emissions regulation. *Production Oper. Management* 25(6):1006–1025.

Plambeck EL, Taylor TA (2013) On the value of input efficiency, capacity efficiency, and the flexibility to rebalance them. *Manufacturing Service Oper. Management* 15(4):630–639.

Sunar N, Plambeck E (2016) Allocating emissions among co-products: Implications for procurement and climate policy. *Manufacturing Service Oper. Management* 18(3):414–428.

Wang W, Ferguson ME, Hu S, Souza GC (2013) Dynamic capacity investment with two competing technologies. *Manufacturing Service Oper. Management* 15(4):616–629.

Renewable Energy and Energy Efficiency

Kök, A.G., Shang, K. and Yücel, Ş., 2018. Impact of electricity pricing policies on renewable energy investments and carbon emissions. *Management Science*, 64(1), pp.131-148.

Muthulingam S, Corbett CJ, Benartzi S, Oppenheim B (2013) Energy efficiency in small and medium-sized manufacturing firms: Order effects and the adoption of process improvement recommendations. *Manufacturing Service Oper. Management* 15(4): 596–615.

Nguyen, J., Donohue, K., & Mehrotra, M. (2019). Closing a supplier's energy efficiency gap through assessment assistance and procurement commitment. *Management Science*, 65(1), 122-138.

Shantia, A., Aflaki, S., & Masini, A. (2021). Contracting for technology improvement: The effect of asymmetric bargaining power and investment uncertainty. *European Journal of Operational Research*, 293(2), 481-494.

Other Sustainable Topics

Agrawal, V. V., & Bellos, I. (2017). The potential of servicizing as a green business model. *Management Science*, 63(5), 1545-1562.

Agrawal, V., Atasu, A., & Ülkü, S. (2021). Leasing, modularity, and the circular economy. *Management Science*, 67(11), 6782-6802.

Fu W, Kalkanci B, Subramanian R (2019) Are hazardous substance rankings effective? An empirical investigation of information dissemination about the relative hazards of chemicals and emissions reductions. *Manufacturing Service Oper. Management* 21(3):602–619.

Lee D (2012) Turning waste into by-product. *Manufacturing Service Oper. Management* 14(1):115–127

Murali K, Lim MK, Petruzzi NC (2019) The effects of ecolabels and environmental regulation on green product development. *Manufacturing Service Oper. Management* 21(3):519–535.

Uppari BS, Popescu I, Netessine S (2019) Selling off-grid light to liquidity-constrained consumers. *Manufacturing Service Oper. Management* 21(2):308–326

Socially Responsible OM

Chen, S., Zhang, Q., & Zhou, Y. P. (2019). Impact of supply chain transparency on sustainability under NGO scrutiny. *Production and Operations Management*, 28(12), 3002-3022.

Cho, S. H., Fang, X., Tayur, S., & Xu, Y. (2019). Combating child labor: Incentives and information disclosure in global supply chains. *Manufacturing & Service Operations Management*, 21(3), 692-711.

Kraft T, Valdés L, Zheng Y (2018) Supply chain visibility and social responsibility: Investigating consumers' behaviors and motives. *Manufacturing Service Oper. Management* 20(4):617–636.

Liu X, Mishra A, Goldstein S, Sinha KK (2019) Toward improving factory working conditions in developing countries: An empirical analysis of Bangladesh ready-made garment factories. *Manufacturing Service Oper. Management* 21(2):379–397.