**OS-617 MANAGING SUSTAINABLE SUPPLY CHAINS**

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| Resource Person: | Dr. Ijaz Yusuf |
| Email: | ijaz.yusuf@umt.edu.pk |
| Class Teaching Hours: | Mondy – 6:30 pm to 9:30 pm |
| Counseling Hours: | Monday – 3:00 pm to 6:30 pm  Wednesday – 2:30 pm to 5:30 pm |
| Office Address: | 3N-1, Room no. 4. HSM Old Building. |
| Program: | MBA |
| Section: | G |
| Semester: | Spring 2023 |
| Course Pre-requisites: | Operations Management / Technology and Operations Management |
| Credit Hours: | 3 |
| Course Type: | Core Course |
| Course URL (if any): |  |

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| **Course Description:** |
| To successfully manage today’s complex supply chains, managers and entrepreneurs need an understanding of traditional business functions and the linkage of these functions to customers and suppliers. They must understand not only the processes that drive their own organization, but also those that direct suppliers’ and customers’ businesses. Supply chain management involves the integration of business processes across organizations, from material sources and suppliers, through manufacturing and processing, to delivery to the final consumer.  This course focuses on the systems approach of managing the inputs and outputs within the various entities of a supply chain, leading to this process being socially, environmentally, and economically sustainable. Students will develop an in-depth understanding of issues involved in effective design and management of the supply chain, resulting in enhanced competitiveness for organizations. |
| **HSM Mission:** |
| Our Mission is underpinned by two facets: development of those who create value for institutions and business organizations. We accomplish this through our degree programs (BBA, BS and MBA, MS). We also seek to develop scholars who are able to generate and disseminate cutting edge knowledge. We accomplish this through our faculty research and PhD programs. |
| **Course Teaching Methodology:** |
| Following instructional tools and methodologies may be utilized during the course.   |  |  |  | | --- | --- | --- | | Lectures & Videos | Mid Term Industry based Projects | Tests / Quiz / Skill development exercises | | Class Participation | Case Studies & Presentations | Industrial Trip | | Guest Speaker Session | Business Simulation / Supply Chain Games | Interactive class discussions | |

**MBA Mission:**

Our mission is to transform students into visionary leaders, managers, and entrepreneurs who are sensitive to corporate social responsibility, business ethics, and global sustainability challenges.

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| **Program Objectives (POs) / Goals:** | | **Program Learning Outcomes (PLOs):** |
| PO-1 | To inculcate reasoning, critical analytical, problem-solving, & decision-making skills. | PLO1, PLO3, PLO5 |
| PO-2 | To provide real-life work experiences. | PLO2, PLO4, PLO5 |
| PO-3 | To provide opportunities to network with employers and entrepreneurs. | PLO4, PLO7 |
| PO-4 | To develop future leaders, managers, and entrepreneurs for the digital and globalized world. | PLO1, PLO2, PLO6 |
| PO-5 | To develop effective presentation, oral, and written communication skills. | PLO2, PLO4, PLO6 |
| PO-6 | To expose students to the important social, environmental, economic and ethical issues. | PLO1, PLO3 |

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| **Program Learning Outcomes (PLOs):**  After completing this degree program, students shall be able to: | | |
| PLO-1 | Critically analyze complex business situations and make appropriate decisions. |  |
| PLO-2 | Successfully negotiate with the challenging work demands. |  |
| PLO-3 | Apply organizational theories, models, and frameworks to the real-world business situations to solve managerial issues. |  |
| PLO-4 | Communicate effectively and efficiently, and deliver professional business presentations. |  |
| PLO-5 | Analyze and evaluate market opportunities and develop viable business plans. |  |
| PLO-6 | Use digital technologies and data analytics tools to make informed decisions. |  |
| PLO-7 | Undertake industry-based projects through interaction with business leaders and entrepreneurs. |  |

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| **Course Learning Objectives (CLOs)** | |
| CLO-1 | * Gain an appreciation for the complexities of local and global supply chains—in modeling, measuring, implementing, and understanding their contribution to strategy and firm performance |
| CLO-2 | * Understand the barriers, bridges and benefits of effective supply chain management |
| CLO-3 | * See how the information technology is fundamentally changing the nature of supply chain management at both strategic and operational levels |
| CLO-4 | * Realize why the functions of purchasing, manufacturing, logistics and information management must all work together, with finance, engineering and other functions in order to enhance the competitiveness of the supply chain |
| CLO-5 | * Understand the issues of environmental and social sustainability of global supply chains |
| CLO-6 | * Identify and resolve ethical issues in supply chain management |

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| **Course Learning Outcomes (CLOs):**  **After completing this course, students shall be able to:** | | |
|  | | **Mapping the CLOs with PLOs** |
| CLO-1 | * Gain an appreciation for the complexities of local and global supply chains—in modeling, measuring, implementing, and understanding their contribution to strategy and firm performance | PLO-1  PLO-3 |
| CLO-2 | * Understand the barriers, bridges and benefits of effective supply chain management | PLO-1  PLO-2  PLO-5  PLO-7 |
| CLO-3 | * See how the information technology is fundamentally changing the nature of supply chain management at both strategic and operational levels | PLO-3  PLO-6  PLO-7 |
| CLO-4 | * Realize why the functions of purchasing, manufacturing, logistics and information management must all work together, with finance, engineering and other functions in order to enhance the competitiveness of the supply chain | PLO-1  PLO-3  PLO-7 |
| CLO-5 | * Understand the issues of environmental and social sustainability of global supply chains | PLO-3  PLO-5  PLO-7 |
| CLO-6 | * Identify and resolve ethical issues in supply chain management | PLO-5 |

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| **Assurance of Learning and Assessment Items:**  *Specify Assessment Items that will assure student learning through application and achieve objectives of specific POs / PLOs / CLOs* | |
| **Assessment Item** | **Application/ Objectives**  **PO / PLO / CLO** |
| Class Participation + Attendance | **PO 1,2,3,4,5,6 / PLO 1,2,3,4,5,6,7 / CLO 1,2,3,4,5,6** |
| Case Study Analysis and Presentation | **PO 1,2,3,4,5,6 / PLO 1,2,3,4,5,6,7 / CLO 1,2,3,4,5,6** |
| Test / Quiz/Activity/Game | **PO 1,2,3,4,5,6 / PLO 1,2,3,4,5,6,7 / CLO 1,2,3,4,5,6** |
| Mid Term Project | **PO 1,2,3,4,5,6 / PLO 1,2,3,4,5,6,7 / CLO 1,2,3,4,5,6** |
| Final Term | **PO 1,2,3,4,5,6 / PLO 1,2,3,4,5,6,7 / CLO 1,2,3,4,5,6** |

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| **Assessment Structure and Grading Policy\*:** | | |
| **Assessment Item** | **Weight (%)** | **Execution Plan** |
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| Quizzes | 15% | 3-4 Tests |
| Assignments / Case Study | 15% | 2-3 Case Studies/Research Articles |
| Project | 10 % | One-time assessment |
| Industry Visit Report /Guest Speaker Session | 05% | One-time assessment |
| Class Activities /Skill Development Exercises | 05 | 1-2 Activities or Skill Development Exercises |
| Mid Term exam | 20% | One-time assessment |
| Final exam | 30% | One-time assessment |
| **Total** | **100** |  |
| **Notes – Norms and Important Class Policies:**  *(such as submission guidelines, academic honesty, make-up policy, code of conduct)*   * STUDENTS ARE REQUIRED TO READ AND UNDERSTAND ALL ITEMS OUTLINED IN THE PARTICIPANT HANDBOOK   **ATTENDANCE**   * ***Be On Time***   You need to be at class at the assigned time. After 10 minutes past the assigned time, you will be marked absent.   * ***Class Attendance Policy***   A minimum of 80% attendance is required for a participant to be eligible to sit in the final examination. Being sick and going to weddings is absences and will not be counted as present. You have the opportunity to use 3 absences out of 15 classes. Participants with less than 80% of attendance in a course will be given grade ‘F’ (Fail) and will not be allowed to take end term exams. International students who will be leaving for visa during semester should not use any days off except for visa trip. Otherwise they could reach short attendance.   * ***MOBILE POLICY***   **TURN OFF YOUR MOBILE PHONE!** It is unprofessional to be texting or otherwise.   * ***EMAIL POLICY***   Participants should regularly check their university emails accounts regularly and respond accordingly.   * ***WITHDRAW POLICY***   Students may withdraw from a course till the end of the 12th week of the semester. Consequently, grade W will be awarded to the student which shall have no impact on the calculation of the GPA of the student. A Student withdrawing after the 12th week shall be automatically awarded “F” grade which shall count in the GPA.   * ***MOODLE***   Students should keep themselves updated with moodle by visiting LMS from time to time.   * ***HARASSMENT POLICY***   Sexual or any other harassment is prohibited and is constituted as a punishable offense. Sexual or any other harassment of any participant will not be tolerated. All actions categorized as sexual or any other harassment when done physically or verbally would also be considered as sexual harassment when done using electronic media such as computers, mobiles, the internet, emails etc.   * ***USE OF UNFAIR MEANS/HONESTY POLICY***   Any participant found using unfair means or assisting another participant during a class test/quiz, assignment or examination would be liable to disciplinary action.   * ***PLAGIARISM POLICY***   All students are required to attach a “Turnitin” report on every assignment, big or small. Any student who attempts to bypass “Turnitin” will receive “F” grade which will count towards the CGPA. The participants submit the plagiarism report to the resource person with every assignment, report, project, thesis etc. If student attempts to cheat “Turnitin”, he/she will receive a second “F” that will count towards the CGPA. There are special rules on plagiarism for final reports etc. all outlined in your handbook.   * ***INDUSTRY PROJECT***   Teams will be assigned a Midterm project in the second session. Your midterm project is a small exercise for developing an understanding about *managing supply chains in a sustainable environment*.   1. The format of Project assessment would be a formal submission of 2 reports by every group at 7th and 11th session of the semester. All reports will be marked separately. 2. Students would be graded on their performances based on their performance during project meetings / viva voce examination. 3. Objectives of the project are as follows: 4. To analyze the end-to-end supply chain of any one of the following sector, abiding by the generalized supply chain model by Bowersox.    1. Leather supply chain    2. Textile supply chain    3. Perishable goods supply chain    4. Footwear supply chain    5. Cement supply chain    6. Computer supply chain    7. Digital supply chain    8. Intelligent supply chain    9. Pharmaceutical supply chain    10. Energy supply chain    11. Packaging supply chain 5. To identify the downstream and upstream activities along with the explanation of various flows throughout the supply chain i.e. material flows and information flows taking into account all symbols of flow charts using Microsoft Visio as a software. 6. To draw the supply chain process maps of the respective sector using supply chain process mapping tool i.e.    * 1. pipeline mapping,      2. value stream mapping,      3. process activity mapping and      4. order fulfillment mapping,      5. value chain analysis   Highlighting processes & value in terms of time throughout the supply chain   1. To identify the gaps in terms of supply chain problems and finally submit comprehensive recommendations based on action plans. 2. Further guidelines will be shared during the interactive project progress sessions.  * ***QUIZZES/***   1. Quizzes are usually taken announced  2. From a total of (n) quizzes, best (n -1) quizzes may be considered for the final grade.  3. No make-up quizzes will be allowed.   * ***CASE ANALYSIS AND PRESENTATIONS***  1. You will be required to work on 1-2 case studies related to supply chain management areas and give a presentation for your case analysis along with report submission. 2. All the case analyses and presentation will be conducted in teams 3. No make-up cases will be allowed.  * ***CLASS PARTICIPATION***  1. You are required to attend the classes regularly and with punctuality 2. You should come fully prepared in each class, and participate actively in class activities  * ***MID TERM EXAM*** Mid term exam will cover 6 to 7 lectures * ***END TERM EXAM***   End term exam will be comprehensive | | |
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| **Sr.#** | **Topics/ Contents** | **Activity** | **Application / Objectives**  **CLO** |
| 1. | Introduction of supply chain management, supply chain strategy, value chains, SCM challenges, generalized supply chain model, Bullwhip Effect | Discussion /PPT /  Reflection | **CLO 1,2,3,4,5&6** |
| 2. | Strategic, Tactical and Operational Decision Making, Selecting the Proper Channel Strategy, Seven Principles of Supply Chain, Framework of Structuring, Drivers of Supply Chain Performance *What is the best way of the right product?* | Discussion, PPT,  Reflection, Activity | **CLO 1,2,3,4,5&6** |
| 3. | Order Cycle Time, Order Processing Priorities, Order Condition Standards, Order Constraints, System thinking, Systems Analysis, Determining Optimum Service Levels, Service Variability, Loss Function, Service as a constant | Discussion /PPT,  Quiz | **CLO 1,2,3,4,5&6** |
| 4. | Designing supply chain networks, designing the distribution network in a supply chain, and network design | Reflection  Skill Development Exercises  Assignment | **CLO 1,2,3,4,5&6** |
| 5. | Product availability, Appraisal of Inventories, Push Inventory Control, Single Order Quantity, Advanced Pull Inventory Control | Skill Development Exercises | **CLO 1,2,3,4,5&6** |
| 6. | Supply Chain Game Session – | Role Play Activity, Business Simulation | **CLO 1,2,3,4,5&6** |
| 7. | Multi-Echelon Inventories, Virtual Inventories, Square Root Law, and Inventory Turns | PPT,  Quiz  Skill Development Exercises | **CLO 1,2,3,4,5&6** |
| 8. | Supply Chain Mapping and Role of Information Technology | PPT, Discussion |  |
| 9 | Advanced topics in supply chain  Big Data Analytics, Internet of Things, Supply Chain Analytics, Services Supply Chains, Intelligent Supply Chains | PPT, Reflection, Discussion | **CLO 1,2,3,4,5&6** |
| 10. | Purchasing and Supply Scheduling: *Quality risk in global supply network*  Total cost of ownership, and concept of strategic cost management. | PPT, Quiz | **CLO 1,2,3,4,5&6** |
| 11 | LP Model of Aggregate Planning, Role of aggregate planning in supply chains. | PPT,  Assignment,  Skill Development Exercises |  |
| 12. | ERP, E-commerce, relationship management, freelancing, and e-businesses. | Group Discussion | **CLO 1,2,3,4,5&6** |
| 13. | SCOR model, and Operational Methodology | PPT, Reflection | **CLO 1,2,3,4,5&6** |
| 14. | Reverse Logistics and Green Supply Chains *Reverse Logistics: Empirical Study for operational framework Green Supply Chain* | PPT, Reflection | **CLO 1,2,3,4,5&6** |
| 15. | Performance measurement, Benefits, Pitfalls, Limitations, trends and future of supply chain management, Assessment of supply chains | PPT, Reflection  Project Presentation | **CLO 1,2,3,4,5&6** |

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| **Primary Text Book (s):** |
| 1. Class Handouts 2. Chopra, S. Kalra (2019). Supply Chain Management: Strategy, Planning & Operation, 7th Edition, Pearson Education. |

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| **Reference / Supplementary Reading (s):** |
| 1. Fawcett, S. E., Ellram, L. M., & Ogden, J. A. (2007). Supply chain management: From vision to implementation. Upper Saddle River, NJ: Pearson Prentice Hall. 2. Ballou, R. H. (2004). Business logistics/supply chain management. Planning, organizing and controlling the supply chain. Pearson Prentice Hall. 3. Christopher, M. (2016). Logistics & supply chain management. 6th edition. Pearson UK. 4. Wisner, J. D., Tan, K. C., & Leong, G. K. (2014). Principles of supply chain management: A balanced approach. Cengage Learning. |

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| **Useful Online / Web Resources:** |
| Professional organizations in your field can be a rich source of information, data, and networking opportunities.   * [Association for Operations Management (APICS)](http://www.apics.org/) * [Council of Supply Chain Management Professionals (CSCMP)](http://cscmp.org/) * [Institute for Supply Management (ISM)](https://www.ismworld.org/) * [Warehouse Education & Research Council (WERC)](https://werc.org/?) |