

MASTERS IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

1.0 INTRODUCTION

Management plays a crucial role in the world of competitive business, growth and productivity. Today, the global business environment needs executives who are cognizant of the global trends and who have the ability to quickly, and correctly respond to the challenges therein. As Kenya moves towards industrialization it is envisaged that a strong, diversified, resilient and highly competitive economy will emerge. Such a dynamic environment will call for professionals capable of dealing with a variety of challenges.

Logistics is the term widely used in business for the range of activities associated with the measurement, storage and handling of materials. The management of logistics has been revolutionized over the past few decades and has come to be regarded as a key determinant of business competitiveness. Businesses have substantially improved their performance not only by overhauling their internal logistics, but also by managing more effectively their external links with suppliers. This has become known as Supply Chain Management. These developments have created a demand for well-qualified Logistics and Supply Chain managers in most sectors of the economy.

2.0 OBJECTIVES

The general objectives of the degree, therefore, is to provide students with both specialized and advanced knowledge of Logistics and Supply Chain Management and further training in related business disciplines. Specific objectives are:-

- a) Provide students with critical insight into the management of logistics and supply chain
- b) Train professional in logistics and supply chain management for employment in private and public sectors; and
- c) Build competencies for strong business practitioners

3.0 ADMISSION REQUIREMENTS

To qualify for admission into the programme, candidates should meet the following requirements:

- (a) Holders of at least an upper Second class honours degree in Business, Economics or any other relevant discipline from Jaramogi Oginga Odinga University of Science and Technology or any other recognized University.
- (b) Holders of a lower Second Class honours degree of Jaramogi Oginga Odinga University of Science and Technology or any other recognized University with a postgraduate qualification (Certificate or Diploma) in a relevant discipline; or evidence of post-graduate research.
- (c) In addition to the above, applicants must meet the specific requirements of the masters programme as approved by the Senate.

4.0 CREDIT TRANSFER

A candidate may be exempted from some course units and credit (s) transferred from institutions recognized by the Senate, subject to the following conditions:

- a) Must have passed in similar course units at Master's level. Request for exemption should be made in writing to the Director, Board of Postgraduate Studies through the Dean of the School of Business and Legal Studies and must be accompanied by officially endorsed supporting documents.
- b) Candidates may be allowed to transfer up to one third (1/3) of the total number of course units.

5.0 COURSE STRUCTURE AND DURATION

- a) Full-time candidates for the Masters degree shall be registered for a minimum of four semesters.
- b) Courses shall be offered in units. A course unit is defined as that part of a subject described by a coherent syllabus and taught normally over a period of a semester. It is designated as a total of 42 hours of study in a semester. For this purpose, one 1-hour lecture is equivalent to one 2-hour tutorial or 3-hour practical or any combination as may be approved by the Board of the School of Business and Legal Studies.

- c) Part-time students shall be allowed to take not less than 50% of the courses prescribed for the year.
- d) All course units will be taught for a total of 42 hours, including examinations except project work which will take 480 hours of practical work and project writing.

6.0 EXEMPTION FROM COURSES

Students may be exempted from some courses by the Jaramogi Oginga Odinga University of Science and Technology Academic Board on recommendation of the school Board.

7.0 EXAMINATIONS REGULATIONS

Jaramogi Oginga Odinga University of Science and Technology postgraduate rules and regulations shall apply.

8.0 COURSE DISTRIBUTION

YEAR ONE: SEMESTER ONE

Course Code	Course Title	Contact Hours		Total Contact Hours	Weight (Unit)
		Lecture	Practical		
MLS 5111	Logistics and Supply Chain	42	0	42	1C
MLS 5112	Operations of Logistics Systems	42	0	42	1C
MLS 5113	Operations Management I: Inventory	42	0	42	1C
MLS 5114	Supply Chain Information Systems	42	0	42	1C
MLS 5115	Freight Transport	42	0	42	1C
MBM 5112	Quantitative Analysis for Decision Making	42	0	42	1C
	Total	252	0	252	6

YEAR ONE: SEMESTER TWO

Course Code	Course Title	Contact Hours		Total Contact Hours	Weight (Unit)
		Lecture	Practical		
MLS 5121	Distribution Centre Design and Management	42	0	42	1C
MLS 5122	Green Logistics	42	0	42	1C
MLS 5123	Supply Chain Improvement and Control	42	0	42	1C
MLS 5124	Strategic Supply Chain Management	42	0	42	1C
MLS 5125	Quality Management and Total Quality Techniques	42	0	42	1C
MBM 5121	Research Methods	42	0	42	1C
	Total	252	0	252	6

YEAR TWO: SEMESTER ONE

Course Code	Course Title	Contact Hours		Total Contact Hours	Weight (Unit)
		Lecture	Practical		
MLS 5211	Research Proposal	28	12	42	1C
MLS 5212	Contemporary Issues	42	0	42	1C
MLS 5213	Global Purchasing and Supplies	42	0	42	1C
	Total	112	12	126	3

ELECTIVE UNITS: Choose ONE

Course Code	Course Title	Contact Hours		Total Contact Hours	Weight (Unit)
		Lecture	Practical		
MLS 5214	Operations Management II: Production	42	0	42	1C
MLS 5215	Entrepreneurship	42	0	42	1C

YEAR TWO: SEMESTER TWO

Course Code	Course Title	Contact Hours		Total Contact Hours	Weight (Unit)
		Lecture	Practical		
MBM 5221	Research Project	0	480	480	1C

9.0 COURSE DESCRIPTIONS

YEAR I: SEMESTER I

MLS 5111 Logistics and Supply Chain

42 Hours

Evolution of supply chain thinking; challenges faced by organizations; The nature and means of formulating business strategy; the scope of supply chain strategic planning; perspectives of producers, retailers and logistics service providers. The challenges associated with outsourcing, methods of assessing corporate and supply chain performance and an understanding of customer service and the use of service gap analysis.

MLS 5112 Operations of Logistics Systems

42 Hours

Design of Logistics systems; Logistical activities and resources in an operational system; Achieving effective and efficient use of resources; Coping with rapid changes in the economic climate; flexibility and resilience and other vital attributes.

MLS 5113 Operations Management I: Inventory

42 Hours

The meaning of inventory; forecasting inventory rate of replenishment and the success or failure of supply chains. Alternative methods of calculation, the advantages and drawbacks of each approach, the means of assessing the uncertainty of any forecast and appropriate manufacturing response. The supply side approaches to inventory management; demand management and forecasting methods. JIT manufacturing, MRP and capacity planning. Production process choices such as job, batch and continuous in relation to wider service and trading relationships.

MLS 5114 Supply Chain Information Systems

42 Hours

Enhancement of logistics management with information technology. Data processing and control information in logistics organization. Use of electronic data interchange (EDI), communication systems, decision support systems, artificial intelligence, expert systems and selected computer applications in logistics.

MLS 5115 Freight Transport

42 Hours

Road, intermodal, sea and air-freight transport. The role and activities of the main market players; the efficient organization of international, national and local delivery; and use of new technologies in enhancing visibility, reducing cost and achieving customer service.

MBM 5112 Quantitative Analysis for Decision Making

42 Hours

Introduction: Uses of quantitative analysis in managerial decisions; Probability, Decision Trees and Decision Analysis; Functions; Matrix Algebra: Introduction, Applications: Input-Output Analysis; Descriptive Statistics; Inferential Statistics; Hypothesis Testing; Regression and Correlation Analysis; Linear Programming: Simplex algorithm, transportation and assignments. Game theory and Decision Analysis.

YEAR I: SEMESTER II

MLS 5121 Distribution Centre Design and Management

42 Hours

Definition of Distribution: the complexity of dealing with ever changing product ranges, sales promotions and customer demand; basic physical storage, handling and picking equipment used along with the methods of organizing work flows, warehouse layouts and the use of advanced information systems to manage the complexity. Use of specialized warehouse simulation

software packages, visits to distribution centres and a design case studies. Relationship between successful design and management.

MLS 5122 Green Logistics

42 Hours

The nature and scale of the environmental problem; methods of environmental auditing across the supply chain; the means of reducing demand for transport and means of using energy more efficiently including use of alternative fuels. The special issues of city and reverse logistics along with an assessment of on-line shopping.

MLS 5123 Supply Chain Improvement and Control

42 Hours

Tools and techniques for understanding, reviewing, changing and improving any supply chain process. Frameworks of control including quality management, project management to budget and control techniques; performance tools such as SCOR, EFQM, Six Sigma and Balance Scorecard; use of specific techniques such as values stream mapping, root cause analysis and failure mode effect analysis.

MLS 5124 Strategic Supply Chain Management

42 Hours

Supply chain management, channels of distribution, customer service, transportation, warehousing, inventory management, material management, procurement, order processing and information systems, financial control of logistics performance, e-business fulfillment, logistics organizations, global and international logistics, and strategic planning.

MLS 5125 Quality Management and Total Quality Techniques

42 Hours

Concept of quality, Gurus in quality management. Systems of quality, Total quality management-TQM; Quality assurance and ISO standards. Process control; Statistical process control SPC, Quantitative aspects of quality. Sampling methods and procedures. Tools of quality. Reliability and maintenance. Quality improvements. Government quality standards, KBS, and imports. Trademarks and Copyrights.

MBM 5121 Research Methods

42 Hours

Research defined, as a science and as an art. The research process; identification of research theme and area, statement of research problem, objectives and questions/hypothesis. Conducting literature review, Types of research designs, Population and sampling methods. Methods and instruments of data collection. Measurement of variables. Data analysis and presentation. Writing research reports.

YEAR II SEMESTER I

MLS 5211 Research Proposal

42 Hours

Identification of appropriate research topic, followed by proposal writing and presentation of findings.

MLS 5212 Contemporary Issues

42 Hours

Current issues with respect to Logistics and Supply Chain Management; Impact of reducing order lead times; assessment of alternative methods of calculating carbon footprints; evaluation of the potential of unattended delivery locker banks; improving the accuracy of long term inventory forecasting tools; trends in the development of ports as logistical hubs; improving warehouse labour management systems; evaluation of customer relation management practices in 3PLs; planning for the logistics of the games/sports; review of line-side inventory and replenishment practices in a JIT manufacturing environment.

MLS 5213 Global Purchasing and Supply

42 Hours

Review of theoretical methods of assessing the spatial dispersal of inventory; Optimisation of warehouse location before using computer decision support tools used in logistical system design. The characteristics and design features of retail supply chains; effects of e-commerce on logistics networks. Techniques of supplier qualification, value engineering, assessing whole life costing and negotiation; impact and procedures associated with new e-commerce initiatives; impact of corporate social responsibility and compliance issues associated with international sourcing

MLS 5214 Operations Management II: Production

42 Hours

Production systems; input-process-output. Design of production systems. Forecasting approaches. Raw material management; procurement and inventory management models and

systems. Production scheduling, one machine and multiple machines schedules. Strategic planning and use of models. Process control and maintenance. Productivity improvements and monitoring.

MLS 5215 Entrepreneurship

42 Hours

The concept of Entrepreneurship with respect to Logistics and Supply Chain Management; Theories of entrepreneurship and economic development. Functions of the Entrepreneur, Typology of an entrepreneur, Entrepreneurial motivation and activities; opportunity recognition and information search, venture creation, growth and performance, entrepreneurial challenges and rewards. Technology innovation. An analysis of entrepreneurship strategies; innovation, creativity, marketing, negotiations, agency and networking.

YEAR II SEMESTER II

MBM 5221 Research Project

480 Hours

The Project provides candidates with an opportunity to apply and extend the knowledge gained from the taught part of the course. Students are encouraged to seek the experience and knowledge of industry practice either through their own research topic using in-depth interviews, case studies and surveys or by a company sponsored project.