



MCAST

Malta College of Arts, Science & Technology

Technical College
Institute of Engineering and Transport

MQF Level 4

ET4-02-20

Advanced Diploma in Transportation Logistics Management

Course Specification

Course Description

One of the core requirements of Industry is the procurement, storage and dispatching of goods. In today's business world it has become imperative to effectively handle transportation and logistics.

This 2-year full-time course is intended for learners who wish to embark on a career in this important sector. The course aims to develop professionals who are knowledgeable, technically competent and able to adapt in the transportation and logistics discipline as they embrace new technological advancements and challenges.

It also prepares learners in social, entrepreneurial and leadership qualities towards tackling logistical challenges innovatively, creatively and ethically.

Programme Learning Outcomes

At the end of the programme the students are able to:

1. *Adapt to the transportation and logistics discipline to embrace new technological advancement and challenges.*
2. *Solve logistical challenges innovatively, creatively and ethically for supply chain operations.*
3. *Devise cost-effective strategies for incoming and outgoing goods.*
4. *Apply supply chain concepts to real-life transport and logistics scenarios.*

Entry Requirements

MCAST Level 3 Diploma

or

4 SEC/O-Level/SSC&P (Level 3) passes

Current Approved Programme Structure

Unit Code	Unit Title	ECVET	Year
Core Units			
ETLGC-406-2000	Operational Procurement Principles	6	1
ETLGC-406-2001	Introduction To Transportation Economics	6	1
ETLGC-406-2002	Introduction to Logistics and Supply Chain Management	6	1
ETLGC-406-2003	Introduction to Warehouse Management	6	1
ETLGC-406-2004	Safety for Logistics	6	1
ETLGC-406-2005	Inbound Logistics	6	1
ETLGC-406-2006	Supply Chain Network - Introduction	6	1
ETLGC-406-2007	Introduction to the Air Transport Industry	6	1
CDKSK-406-2007	Mathematics	6	1
CDKSK-406-2001	English	6	1
ETLGC-406-2008	Use of Transportation Simulation Model	6	2
ETLGC-406-2009	International Business - Global Supply Chain	6	2
ETLGC-406-2010	Transport of People	6	2
ETLGC-406-2011	GIS for Logistics	6	2
ETLGC-406-2012	Transportation and Logistics Project	6	2
ETLGC-406-2013	Costing for Logistics	6	2
CDKSK-406-2010	IT	6	2
CDKSK-404-1915	Employability and Entrepreneurial Skills	4	2
CDKSK-402-1914	Intrapersonal and Interpersonal Skills	2	2
Total ECVET		108	/

Choose One of the Following Options			
Option 1 - SEA			
ETSEA-406-2000	Principles of Marine Transportation	6	2
ETSEA-406-2001	Maritime Law and Legislation	6	2
Option 2 - LAND			
ETLND-406-2000	Fleet Operations	6	2
ETLND-406-2001	Intermodal Freight Operations	6	2
Option 3- AIR			
ETAVN-406-1509	Cargo Operations	6	2
ETAIR-406-2000	Logistics for aircraft maintenance	6	2
Total ECVET		12	/
Total ECVET		120	/

ETLGC-406-2000 - Operational Procurement Principles

Unit Level (MQF): 4

Credits: 6

Guided Learning Hours: 60

Unit Description

This unit will expose the learner to the basic principles of operational procurement which are necessary to support incoming flows within organisations. It will specifically delve into the underlying purchasing concepts which would be essential to understand the knowledge concepts of procurement.

This unit will start by outlining the principles of a value chain, and the role and contribution of procurement within a supply chain. It will then go on to explain the fundamental differences between the traditional push and customer-focused pull systems.

Another area of relevance to this unit would be the practices adopted for sourcing and supplier evaluation. The learner would then be able to understand the value of acquiring these skills in achieving the initial stages of the procurement process.

The final part of the unit is aimed to give the learner a solid understanding of the importance of negotiation within the procurement process. This would allow the learner to have sufficient knowledge required when negotiating with suppliers prior to awarding a contract and, also, when relating to suppliers within the latter part of the

procurement process. The latter includes contract management, supplier relationship management and supplier development.

Learning Outcomes

On completion of this unit, the learner will be able to:

- L01. Understand the basic principles of value within a supply chain.*
- L02. Understand the different stages within the procurement process.*
- L03. Apply different evaluative tools for supplier selection.*
- L04. Distinguish between the different negotiation techniques utilised within the procurement process.*

ETLGC-406-2001 - Introduction to Transportation Economics

Unit Level (MQF): 4

Credits: 6

Guided Learning Hours: 60

Unit Description

Initially, the learner will be introduced to the history of transportation and how, by its importance, transportation has influenced the growth of the world's economy. Eventually, the commencement of global trading will be discussed along with how the world economy has improved as a result of the development of transportation. Furthermore, free and common markets, their advantages and disadvantages along with the trade barriers will be discussed.

The learner will then be briefed about the functions of economics within an economy, and the various economic tools used within the logistics sector. This will be followed by an introduction of how demand and supply are shaped in the transportation industry. Also, the main demand and supply influencers and their impact on each other will be highly deliberated. This unit will go in further depth by covering other various topics, such as, the understanding of transport demand elasticity, transportation as a derived demand, and finding the equilibrium between demand and supply.

This unit will then focus on the meaning of a market in economics and the different market structures. This discussion will continue by highlighting their main differences. Furthermore, the direct and indirect costs involved in transportation, both fixed and not, will be deliberated. During this unit, the student will also receive the opportunity to become familiarised with other economic tools including the price differentiation and price discrimination. These tools would be contextualised and developed for the transportation and logistics sector.

In conclusion, this unit will discuss the sustainability of transportation from an economical point of view, and the contribution of sustainability to the economy. This topic is gaining importance globally; hence, the most sustainable and economical modes of transport will be evaluated. This evaluation would be supported by a discussion on the actions adopted globally and their contribution to the respective economies.

Learning Outcomes

On completion of this unit, the learner will be able to

- L01. Understand the role of transportation in the global trade.*
- L02. Recognise the demand and supply influencers, in the logistics industry, and their impact in the supply chain.*
- L03. Identify the different market structures and their main benefits and weaknesses.*
- L04. Understand how a dynamic macro-economic structure would impact transport operation costs.*
- L05. Recognise the importance of adopting sustainable transportation for logistics operations as a contributor to the economy.*

ETLGC-406-2002 - Introduction to Logistics and Supply Chain Management

Unit Level (MQF): 4

Credits: 6

Guided Learning Hours: 60

Unit Description

This unit starts by looking at the fundamental concepts of logistics and distribution. By delving into the components of a supply chain, the learner will investigate the developments that brace the integration and globalisation of a supply chain. An introduction to models of service quality and expected levels of customer service will lead the learner to understand the supporting customer service required within supply chain operations and distribution. The first part of the unit will also introduce the learner to the reverse logistics concepts and its impact on modern supply chains.

The next topic will then introduce the learner to the physical distribution channel types and structures. Then the learner will be introduced to the broader external environment, to be able to discuss how these external environmental factors, along with internal environmental factors, may present challenges to transport and logistics operations.

The unit will conclude by providing the learner with an opportunity to apply logistics principle to a range of supply chain scenarios.

Learning Outcomes

On completion of this unit, the learner will be able to:

- L01. Understand the concepts of logistics and distribution, including reverse logistics.*
- L02. Understand distribution channels as supported by transport and logistics services.*
- L03. Discuss key issues and challenges for transportation and logistics.*
- L04. Apply logistics principles in supply chain contexts.*

ETLGC-406-2003 - Introduction to Warehouse Management

Unit Level (MQF): 4

Credits: 6

Guided Learning Hours: 60

Unit Description

This unit is designed to introduce the learner to the basic principles of warehousing and storage that support logistics and supply chain operations. The learner will learn to identify appropriate equipment used within warehouses and storage environments. Storage and handling systems for palletised and non-palletised cargo used within automated and semi-automated warehouses will also be introduced.

The unit will continue by preparing the learner to apply the basic concepts of warehouse design for efficient logistics and distribution operations.

Essential warehouse management and information that support performance monitoring in warehouse operations will be covered to introduce the learner to the supervisory role of a storekeeper within a storage environment.

Learning Outcomes

On completion of this unit, the learner will be able to:

- L01. Understand the basic principles of warehousing and storage to support logistics and supply chain operations.*
- L02. Identify storage and handling systems in warehouse operations.*
- L03. Apply the basic concepts of warehouse design for efficient logistics operations.*
- L04. Understand warehouse management and information to support logistics performance monitoring.*

ETLGC-406-2004 - Safety for Logistics

Unit Level (MQF): 4

Credits: 6

Guided Learning Hours: 60

Unit Description

This unit will commence by giving an overview on how to protect employees and stock, within the warehouses and distribution centres. The focus will be on what actions can employees and managers take in order to prevent damages, increase security and eliminate other possible risks. These issues are important as they may incur additional costs to the company and increase the risk of injuries at work.

The next topic will cover the safety of the movement of workers and goods throughout the whole supply chain nodes, with special focus on warehouses and distribution centres. This will give the learner the opportunity to understand the importance of health and safety precautions which are required whilst working in such ambient, especially when it comes to handling of goods at these types of workplaces. In addition, this unit will discuss the safety required to load and unload trailers and containers and the planning required to stack them to the maximum possible capacity in the safest manner.

Then the learner will be introduced to various international regulators, such as, the local OHSAA and the European Union directives. These regulations will introduce the learner to the importance of operating and promoting a healthy and safe environment within the logistics industry. Moreover, the role and function of the local authority and legislation responsible for the health and safety will also be covered and evaluated. The learner will be briefed about the essential utilisation of personal protection equipment (PPE) throughout logistics and transport operations. Furthermore, this course will also cover various licenses which are necessary to operate within the

transport and logistics environment. This will include, but not limited to, the special license to drive forklift and the license required to operate a warehouse and retail shop.

Along with these two main topics, the learner will also be introduced to various European and worldwide legislations to abide with for the safe transportation of goods. This unit will, thus, cover the IMDG Code which covers the safety of cargo transportation of dangerous goods by Sea, the CMR convention which covers various legislations with regards to road transportation and ADR, and the European directive related to the international transport of dangerous goods by road, to mention a few.

Learning Outcomes

On completion of this unit, the learner will be able to:

- L01. Recognise the functions of holding stock safely in different stages of the supply chain.*
- L02. Understand the role and importance of the regulators which are responsible for the health and safety in the transport and logistics sector.*
- L03. Recognise the international and local guidelines and directives which promote health and safety within different nodes of the supply chain.*
- L04. Appraise how implementing health and safety guidelines and directives throughout the supply chain impact the companies' day-to-day operations.*

ETLGC-406-2005 - Inbound Logistics

Unit Level (MQF): 4

Credits: 6

Guided Learning Hours: 60

Unit Description

This unit will familiarise the learner with the identification of stock for different purposes. Then the different documentation and procedures that support incoming and outgoing goods will be introduced. Correct documentation and its detailing are an essential part of the procedures that support the receipt and issue of stock for distribution purposes within a supply chain. The learner will be provided with opportunities to check stock and apply stock taking procedures as an integral step in the process of maintaining healthy levels of stock within any distribution channel partner.

This unit will then concentrate on the concept of holding a safety stock within different nodes of a supply chain. The learner will become familiar with the importance and role of inventory and why it is required. Additionally, the unit will discuss what effect will uncertain demands have on logistics and the inventory.

This unit will also cover the most utilised type of stocking methods used within the logistics industry along with their fundamentals. Furthermore, the learner will also obtain the knowledge about the critical decisions that logisticians take with regards to stock, such as, order quantity and the timing of orders of fresh stock. Oppositely, it will also be discussed how logistics companies, who practice the just-in-time theory, manage to function their supply chain without stock.

This unit will provide the learner with the opportunity to apply basic stock control techniques adopted for different purposes.

Learning Outcomes

On completion of this unit, the learner will be able to:

- L01. Understand the identification of stock, along with the related documentation and procedures for receipt and issue of stock, for different purposes.*
- L02. Apply stock checking and stock taking procedures that support distribution purposes.*
- L03. Understand inventory planning and replenishment for different supply chain components.*
- L04. Apply basic stock control techniques adopted for different logistics purposes.*

ETLGC-406-2006 - Supply Chain Network - Introduction

Unit Level (MQF): 4

Credits: 6

Guided Learning Hours: 60

Unit Description

In this unit, the learner will attain competence in understanding the operation of the various nodes and links within a supply chain network. The focal roles of the distribution centres and warehouses within supply chain networks will be emphasised.

The next topic will then shift the focus towards enabling the learner to comprehend the planning and design of a supply chain network. This will include decision-making criteria that supply chain managers encounter throughout the designing and planning process of a supply chain network. This will include the location, sourcing, inventory and transportation decisions. The learner will be presented with key network trends and strategies, focusing mainly on the outsourcing strategies, for both vertical and horizontal collaborations.

The learner will also be introduced to the latest concept of network competition. By this, the learner will be able to understand how various collaborators work within supply chains and how focal firms attempt to integrate their supply chains as a network. The learner will also familiarise with the current major business transformations along with the 3rd party and 4th party logistics models and concepts. Real-life examples of how companies transformed their business and their supply chain networks to keep their business relevant will, also be presented within this Unit.

Learning Outcomes

On completion of this unit, the learner will be able to:

- L01. Understand the role, importance and operation of each node of a supply chain network.*
- L02. Analyse the design of supply chains in order to have the most effective network possible.*
- L03. Recognise the importance of outsourcing and the difference between horizontal and vertical partnerships.*
- L04. Assess the various changes occurring in the new era of supply chain network competition.*