MQF Level 4

AE4-02-21

Advanced Diploma in Transportation and 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-406-2109	Information Technology	6	2
CDKSK-404-1915	Employability and Entrepreneurial Skills	4	2
CDKSK-402-2104	Community Social Responsibility	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	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

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:

1. *Understand the basic principles of value within a supply chain.*
2. *Understand the different stages within the procurement process.*
3. *Apply different evaluative tools for supplier selection.*
4. *Distinguish between the different negotiation techniques utilised within the procurement process.*

ETLGC-406-2001 - Introduction to Transportation Economics

Unit Level (MQF): 4

Credits: 6

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

1. *Understand the role of transportation in the global trade.*
2. *Recognise the demand and supply influencers, in the logistics industry, and their impact in the supply chain.*
3. *Identify the different market structures and their main benefits and weaknesses.*
4. *Understand how a dynamic macro-economic structure would impact transport operation costs.*
5. *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

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:

1. *Understand the concepts of logistics and distribution, including reverse logistics.*
2. *Understand distribution channels as supported by transport and logistics services.*
3. *Discuss key issues and challenges for transportation and logistics.*
4. *Apply logistics principles in supply chain contexts.*

ETLGC-406-2003 - Introduction to Warehouse Management

Unit Level (MQF): 4

Credits: 6

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:

1. *Understand the basic principles of warehousing and storage to support logistics and supply chain operations.*
2. *Identify storage and handling systems in warehouse operations.*
3. *Apply the basic concepts of warehouse design for efficient logistics operations.*
4. *Understand warehouse management and information to support logistics performance monitoring.*

ETLGC-406-2004 - Safety for Logistics

Unit Level (MQF): 4

Credits: 6

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:

1. *Recognise the functions of holding stock safely in different stages of the supply chain.*
2. *Understand the role and importance of the regulators which are responsible for the health and safety in the transport and logistics sector.*
3. *Recognise the international and local guidelines and directives which promote health and safety within different nodes of the supply chain.*
4. *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

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:

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

ETLGC-406-2006 - Supply Chain Network - Introduction

Unit Level (MQF): 4

Credits: 6

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:

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

ETLGC-406-2007 Introduction to the Air Transport Industry

Unit Level (MQF): 4

Credits: 6

Unit Description

This unit highlight the importance of air transport as being an important enabler to help in economic growth and developments. Air transport provides vital connectivity on a national, international and regional scale. It helps promote tourism, transport of goods and create employment. The economic benefits acquired through connecting people and business around the world through air transport which is also part of the aviation industry. The social benefits being achieved through a wider range of communication between different parts of the world and having access to remote areas have been enhanced through air transport.

Learning Outcomes

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

1. *Explain the importance of air transportation.*
2. *Examine how air transportation for passengers works.*
3. *Examine the role of the Airfreight industry in today's world.*
4. *Identify the disadvantages and advantages of air transportation for both passenger and cargo and the importance of quality and safety.*
5. *Review the future of the airline industry as regards to passenger and cargo also from the technological aspect.*

ETLGC-406-2008 Use of Transportation Simulation Model

Unit Level (MQF): 4

Credits: 6

Unit Description

Modelling and simulation are an excellent way to get results from researching without spending a lot of money and time on prototype creation. Simulation and modelling has been instrumental in scientific advances within major fields like health, security, as well as a source of technological competitiveness globally. Simulation and modelling has become an industry norm for Supply Chain and logistics, offering major breakthroughs in optimization within the planning, control, congestion, safety, and environmental protection aspects of network routing and optimization.

This unit will guide the learner through analysing the complex transportation systems accurately and under varying operational conditions and/or scenarios to predict behaviour for planning purposes to provide adequate academic answers to today's emerging transportation technology management challenges. It will provide a comprehensive, in-depth, and state-of-the-art summary of the important aspects of transportation analysis and modelling simulations.

The unit starts with a walkthrough of the fundamentals of modelling since they represent the largest portion of transportation analysis, with mathematical background to describe the real transportation systems and how they correspond to respective modelling methodologies. This section also covers object motion and time space diagrams, transport network basics, and mathematical programming applications in the traffic and transport sector.

Following this the most frequently used models will be presented which will require supplemental reading as the number of models is expansive and elaborate.

The until will then focus on the Identification of Traffic Flow Theory and capacity and level of service within different transportation modes. This includes descriptions of the basic flow variables, speed-density relationship, flow-density relationship, speed-flow, and fundamental diagrams of traffic flow, micro-simulation traffic models, car following models, and network flow diagrams.

After that Traffic Control techniques related to road, rail, public transport, and traffic controls systems will be examined. The section covers various traffic control measures, methods, and strategies that should be implemented to use the existing transport infrastructure to an optimal level.

Following this the unit will analyse Transportation planning methods and techniques including the four-step planning procedure and the relationship between logistic systems and transportation which includes trip generation, trip distribution, modal split, and route choice. Wardrop's Principle and traffic network equilibrium conditions, the Braess's Paradox, and transport capacity expansions will be covered as well. Dynamic traffic assignment problems, transport demand analysis based on discrete choice models, and activity-based travel demands will also be covered.

Finally, the unit will assess Basic transportation economics concepts and the impacts of transportation systems on society and the environment. This includes fixed and variable costs in transportation, economies of scale, relationship between supply, demand, and infrastructure costs will also be covered. The main impacts looked at will be the continuous expansion and maintenance of transport systems globally and how energy/fuel consumption are related to noise, traffic incidents, accidents, and hazards to the environment.

Learning Outcomes

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

1. *Review transportation history, classification of transportation systems and traffic/transport analysis techniques.*
2. *Identify the Traffic Flow Theory, capacity and level of service within different transportation modes.*
3. *Examine Traffic Control techniques related to road, rail, public transport and traffic controls systems.*
4. *Analyse transportation planning methods and techniques including the four-step planning procedure and the relationship between logistic systems and transportation.*
5. *Assess basic transportation economic concepts and the impacts of transportation systems on society and the environment.*

ETLGC-406-2009 International Business - Global Supply Chain

Unit Level (MQF): 4

Credits: 6

Unit Description

Initially, the learner will be introduced to the basic knowledge of the general terms and concepts used within the logistics and global supply chain industry. These include, but not limited to, the meaning and understanding of Global Supply Chain, Logistics, Transportation and Multi-Modalism along with the various factors that encourage trade. This will enable the learner to understand the different theories, factors, challenges and difficulties that drive and inhibit supply chains.

Global supply chains commence from the extraction of raw materials. Hence, this topic will give the opportunity to the learner to analyse where the main raw materials are situated geographically. In addition, this topic will highlight the main seaports that are renowned for exporting these raw materials and, also, the partly and finished goods.

This unit will then provide a thorough overview of each component within the supply chain and their operation management with a global perspective. This would include the concepts of decentralisation, reverse logistics, outsourcing and the selection process of international logistics operators. Additionally, the learner will be presented with different real-life case studies of global supply chains in order to maximise their understanding of how major global companies mitigate the theoretical models into practice.

The learner will, furthermore, be introduced to different risks that supply chains encounter; both daily and in extreme or one-off occurrences. Learners will, thus, be taught how to identify, assess, document and decide whether to mitigate or eliminate risks. Moreover, as global supply chains are highly vulnerable, especially due to their

complexity, the learner will become familiar with the actions taken by companies in order to maintain their resilience in different challenges.

This unit will also go through various documentation and operational processes that supply chain managers deal with on a regular basis and in order to render transportation within global supply chains successfully. This will also include the various IT systems used to help facilitate the supply chains whilst assisting logisticians on their daily work.

Learning Outcomes

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

1. *Identify the basic tools used when operating within a Global Supply Chain.*
2. *Examine how different supply chains operate on a global scale.*
3. *Understand the risk management concept and the vulnerabilities found within a global supply chain.*
4. *Understand the operation management process within the whole supply chain, including the documentation processes and the importance of harmonisation through the use of integrated IT systems.*

ETLGC-406-2010 Transport of People

Unit Level (MQF): 4

Credits: 6

Unit Description

This unit provides information of transport of people on a national and international scenario. It gives an insight of how transport has changed along with the movement needs and attitudes of people. Transportation systems alike have become fundamental components of economic activities. A growing share of the wealth is thus linked to trade and distribution. Important elements to consider is the operation to control and supply the transportation network in an effective and efficient way through innovation and technology.

Learning Outcomes

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

1. *Explain the importance of transportation through the years.*
2. *Examine the effects of transport on the environment.*
3. *Compare and contrast the different types of transportation means.*
4. *Identify the factors that effect and influence the transport of people.*
5. *Inspect how people's attitudes can impact the mobility pattern.*

ETLGC-406-2011 GIS for Logistics

Unit Level (MQF): 4

Credits: 6

Unit Description

Geographical Information Systems (GIS) allow Businesses to store, manipulate, display, and analyze data which has been geographically catalogued and tagged which creates geospatial data.

Visualizing data patterns on Maps to display and depict trends and data is what the main Learning Outcome of the course. The various tools, software, and concepts are learned and practiced to realize this Focal Outcome.

This allows different entities to relay information to one another through integrated data such as latitude and longitude, compass location, location in proximity to other known locations, and Global Positioning Systems to interact with these tagged locations. Data sets such as address, zip code, city, etc. provide connection to GIS/Geo Spatial data.

The learner must develop skills around basic spatial data concepts, interacting with maps, and interacting with data. The Learner should then learn how to interact with data through map layers, exploring online resources, and ultimately creating spatial relationships thourhg raster, vector data that provides a tangible mapping outcome.

Ideally the learner then works to take raster and vector data and run it through open source software like ArcGIS and/or QGIS.

The Learner must also be introduced to software that tracks satellite imagery, digital map technology, Imagery Analysis, Model Building, Spatial visualization using Specific GIS software, and other pertinent technological tools.

Finally the Learner must learn about how GIS can be, and is used, within the Logistics/ Transportation industry. Topics include Transportation Planning, Operations, Asset Management, and port/airport management

The Learner in tandem with Lecturer should then decide on a GIS Project focused within the Logistics/Transportation sector and agree what Data Visualizations are required, Discrete and Continuous Data sets and values, the source, and the deliverable.

ArcGIS Deskptop is preferred; GIS APIs could be used in place of QGIS but preferably they are used in tandem.

Once the Learner has proven understanding of Raster and basic GIS/Geospatial data understanding a Project should be identified to then build upon system and plot.

Running Raster Statistics QGIS followed by Vector Data reading in both systems and basic visualization creation with Shapefiles would follow.

A final Assignment or Assessment should be agreed with the Learner and Lecturer that is pertinent or relevant to MCAST or Malta / EU. An example might be the amount of traffic that passes MCAST in Paola each day over a period of a year, or visualizing main Intermodal Hubs and the amount of containers that pass through each week/month/year etc.

Learning Outcomes

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

1. *Identify fundamental key elements within Geographic Information Systems (GIS) using ArcGIS to interact with maps and data.*
2. *Assess spatial relationships between attribute data and location through data display and presentation.*
3. *Demonstrate an ability to create and edit data through geocoding.*
4. *Analyze Geospatial Data through vectors, rasters, and the creation of data subsets.*
5. *Apply Models and Modelling – Terrain Mapping and Analysis, Spatial Interpolation, Dynamic Segmentation.*
6. *Apply ArcGIS to Logistics / Transportation.*

ETLGC-406-2012 Transportation and Logistics Project

Unit Level (MQF): 4

Credits: 6

Unit Description

This unit will guide students towards the successful completion of a Project within the Transportation and Logistics Industries. The aim is to introduce learners to research and develop their understanding and skills in both quantitative and qualitative research methods as well as report creation and presentation of findings.

Learners will be introduced to the research process and apply different methodologies, data collecting tools and conceptual frameworks. Learners should first be introduced to the DMAIC framework to Define, Measure, Analyze, and depending on the outcome of the intended Project, Improve and Control. Prior to moving past each stage, the Lecturer should assess and approve; so, the define phase of the Project should be solidified and agreed before moving to the Measure phase of the Project.

The ultimate delivery of this Unit should be a Transport and Logistics delivered Project. In this study-unit, learners will cover different types of research design including experimental, descriptive, and observational designed. Qualitative data collection designs to be introduced include archival studies, interviews, and case studies. The methodological applications of these methods, including the design of appropriate research questions, will also be covered. The syllabus also covers the challenges of various data collection techniques as well as the measurement issues of questionnaire development, reliability and validity of data, issues of sampling and of sampling size. Following completion of this unit, learners should be familiar with all parts of the research process including funding application, ethics and publication. Tools will be provided for the learner to individually formulate a research question and to write a sound research proposal.

Learning Outcomes

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

1. *Develop and submit a Transport and Logistics project proposal.*
2. *Use research and evaluation skills to organise and produce Transport and Logistics project plan.*
3. *Produce the major project according to chosen specialised areas in Transport and Logistics.*
4. *Present a complete Transport and Logistics project as an evaluative and reflective experience of developed work.*

ETLGC-406-2013 Costing for Logistics

Unit Level (MQF): 4

Credits: 6

Unit Description

Although inventory is essential for most of the logistics companies, this comes at a cost and this issue will be discussed in depth during this unit. Complementing this unit, the costs related to owning a warehouse will also be deliberated. Does the warehouse's location impact the logistics costs? Do the number of warehouses affect the transportation costs? These important decisions that logisticians face, and more, will be debated within this unit along with the principles of logistics costings.

Costings also impact the mode of transport selection in the logistics industry. Hence, firstly, the learner will briefly be introduced to the characteristics of the different types of transport modes, from their costs and expenses point of view. Subsequently, the selection method will be discussed giving prominence to the operational factors of each mode along with their cost and service necessities.

The next part of this unit will then shift its focus on the use of accounting within the logistics industry. To begin with, the learner will be introduced to the role and purpose of management accounting. Furthermore, this unit will go into the valuation and rotation of the inventory. This will include the use of FIFO and AVCO methods and examine why different valuating methods give different calculations. Additionally, this unit will cover marginal costings in which different type of costings will be delved into.

Subsequently, this unit will introduce the development of transportation quotes with the main focus being road (local and international), air and sea transportation. Complimenting this topic, the importance of quoting to the buyers will be discussed while the learner will also get the opportunity to experience a real-life example on how couriers and agencies issue the quotes to their clients. This topic will then be supported by price calculation which gives the learner a thorough understanding of price determination, which will include the calculation of the mark-up and margin for service provision.

The final section of this unit will give the opportunity to the learner to understand the process and preparation of budgeting along with the process and functions of budgets and their role in business planning. This unit will also cover the functional budgets for inventories; production; sales and purchase and debtors and creditors.

Learning Outcomes

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

1. *Recognise the importance of the location of the logistics companies' resources in relation to the logistics costs.*
2. *Understand the different types of costs incurred in transport and logistics operations.*
3. *Apply the basic accounting tools used in the logistics and transportation industry.*
4. *Compute service pricing and quotations for transport or logistics service provision.*
5. *Calculate functional budgets for various aspects within the supply chain.*

ETSEA-406-2000 Principles of Marine Transportation

Unit Level (MQF): 4

Credits: 6

Unit Description

This unit will expose Learners to the principles of Marine Transportation within the Global Logistics Industry. It will specifically explore the fundamental industry dynamics around maritime global trade which drives more than 85%+ of global trade.

Annually vessels move more than 10 billion tonnes of containers, solid, and liquid bulk. Marine transportation is the most effective and efficient way to move goods and economy is interdependent on transportation Networks; the importance of Marine transportation is then paramount.

This unit will start by outlining basic history of marine transportation and its role within global supply chain and economics. It will then lead into port logistics as well as the importance of dry ports and the connection to traditional seaports.

The unit will then go into liner shipping, containerisation and its effect on supply chains. It will then discuss intermodal operations and transport hubs and how they connect to seaports and shipping. It will then lead into tanker trade and logistics, transport networks, and shipping management.

Finally, students will learn about the dry bulk trade, tramping, and terminal facilities and operations and will be guided on hinterland logistics, port authority and port management.

Learning Outcomes

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

1. *Present port-centric logistics and supply chain integration.*
2. *Demonstrate container transportation logistics with tanker operations.*
3. *Assess dry bulk operations, intermodal and hub transportation, and intermodal. terminal facilities*
4. *Describe dry bulk trade, terminal facilities, and operations/hinterland logistics, port authority and port management.*

ETSEA-406-2001 Maritime Law

Unit Level (MQF): 4

Credits: 6

Unit Description

The aim of this course is to familiarise the learner with the main principles of carriage of goods legislation, and to specifically tailor that knowledge to a logistics environment.

The learner will be required to gain knowledge of the principles underpinning a carriage of goods contract, including bills of lading and charterparties, as well as the main obligations of all parties to such contracts and the main conventions relating to such agreements. Underlying arrangements, consisting of international trade agreements and dispute settlements also form part of the curriculum as part of an integrated understanding of the logistics surrounding the sale and delivery of goods. The learner will also be required to learn the most common of the INCOTERMS being currently used.

Learning Outcomes

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

1. *Apply the main terminology used in a contract of affreightment.*
2. *Distinguish between charterparties and bills of lading and the different obligations underpinning each.*
3. *Apply the essential elements of an international sale agreement, including the most commonly used INCOTERMS.*
4. *Outline and compare the salient features of the main types of dispute resolution mechanisms (mediation, arbitration, litigation).*
5. *Identify the main documents underpinning a carriage of goods agreement, the parties thereto while outlining the essential obligations of the parties.*

ETLND-406-2000 Fleet Operations

Unit Level (MQF): 4

Credits: 6

Unit Description

This unit will expose the student to the basic principles of goods vehicle operator's licensing which are necessary to support the professional running of a road haulage operation. The unit will specifically delve into the EU rules applicable to road haulage including the goods vehicle drivers' hours, working time and tachograph use equipment.

The unit will define the types of goods vehicles used in road haulage operations. This will include detail of the goods vehicle dimension and weight, construction and use, lighting, marking and plating.

Another area of relevance to this unit would be the practices adopted for vehicle maintenance and maintenance records. The unit will provide an overview of the conditions of carriage and security of goods and the relevant road traffic regulations.

The final part of the unit is aimed to give the learner a solid understanding of the importance of safety in loading different loads on vehicles. This unit would also prepare the learner to appraise the financial aspects and use of IT systems in fleet operations, the environmental responsibility a fleet operator has in the efficient running of the operation.

Learning Outcomes

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

1. *Recognise the basic principles of goods vehicle operator's licensing and professional competence.*
2. *Define goods vehicles construction and use that support their operations.*
3. *Outline how goods vehicle fleet operations and maintenance would be in line with regulations.*
4. *Understand the safety requirements in loading and working with goods vehicles.*
5. *Appraise economic and environment responsibility in road fleet operations.*

ETLND-406-2001 Intermodal Freight Operations

Unit Level (MQF): 4

Credits: 6

Unit Description

This unit aims at providing knowledge and application on the topic of intermodal freight operations and its connection to the wider field of freight transport. As intermodal freight transport involves multiple modes of transportation without physically handling the freight at the unit load level, the course will focus on how freight integrates within logistics networks with a concentration on real operational attributes. This course will also provide the student with tools for analysing some of the issues and challenges found within intermodal transport systems.

The course will start off identifying the origins of intermodal transport, discuss policy and planning related to its mechanism. The course will then look at the basic loading units, handling equipment, and vessels such as trains, merchant vessels, and trucking.

Following this the course will focus on Rail operations, inland waterway operations, and road distribution from intermodal perspective. The unit will then concentrate on Intermodal terminal design and operations, water port interface, and container flow.

Finally, the unit will explore the system management and economics of intermodal systems, intermodal logistics, modelling of intermodal systems, and environmental aspects regarding these systems.

Learning Outcomes

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

1. *Demonstrate the origins of intermodal transport, policy and planning, and relevant equipment and vessels.*
2. *Implement solutions of rail, inland waterway, and road distribution within intermodal systems.*
3. *Analyze intermodal system management, economics, and intermodal modelling.*
4. *Link intermodal systems to logistics and how supply chains are modified to suit intermodal transport.*
5. *Model intermodal systems and environmental aspects of Intermodal Transport.*

ETAVN-406-1509 Cargo Operations

Unit Level (MQF): 4

Credits: 6

Unit Description

In this unit the learners will be able to become familiar with the requirements and responsibilities of the shipper. As well as know the importance of airfreight in today's dynamic world and understand the role and responsibilities of the freight forwarder.

Learners will gain knowledge about the different operational procedures and processes that airlines and cargo handling companies adopt during acceptance and releasing of goods as well as understanding the handling procedures for different types of cargo.

Moreover, in this unit learners will become familiar with other entities like Customs and AVSEC (SECURITY), which are also involved in the import and export activities related to airfreight. Finally, learners will understand what dangerous goods are and how these can be shipped as airfreight.

Learning Outcomes

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

1. *Determine the responsibilities of the shipper and the role of freight forwarder in aircraft cargo operations.*
2. *Explain the different procedures and processes related to import and export of goods by air*
3. *State the role of other entities in ensuring a smooth operation like Customs and Security*
4. *Describe the different handling procedures used for different types of cargo*
5. *Apply the correct processes and procedures to handle freights with dangerous goods.*

ETAIR-406-2000 Logistics for aircraft maintenance

Unit Level (MQF): 4

Credits: 6

Unit Description

This unit provides information for the logistics procedures and models involed in the supply chain for aircraft maintenance. Transportation solutions that should be designed according to the level of urgency encountered. Operational maintenance has increased and with it the need to reduce expenses and improve the supply chain.

Learning Outcomes

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

1. *Identify the importance of having a robust supply chain.*
2. *Inspect how aircraft maintenance can impact the Airline Operation and Safety.*
3. *Compare and contrast proactive and reactive maintenance.*
4. *Explain the future of logistics and aircraft maintenance.*
5. *Examine the role of technology in the supply chain, logistics and maintenance of Aircrafts.*