DEPARTMENT OF LOGISTICS

STELLENBOSCH UNIVERSITY

POSTGRADUATE DIPLOMA:

TRANSPORT AND LOGISTICS

2022

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POST GRADUATE DIPLOMA IN TRANSPORT AND LOGISTICS: MODULES

Anchor programme:

PGDip (Transport and Logistics)
Programme module

Code	Module	Credits	Module Name
13760	778	120	Transport and Logistics Studies

Student profiles (the programme content will vary dependent on the prior learning of the student):

A	Students with **NO** previous (undergraduate) qualifications or exposure to Logistics Management or Transport Economics
B	Students **WITH** previous (undergraduate) qualifications or exposure to **Logistics and Supply Chain Management** (on 3rd year) but **NO** Transport Economics under graduate exposure/ experience.
C	Students **WITH** previous (undergraduate) qualifications or exposure to **Transport Economics** (on 3rd year) but **NO** Logistics and Supply Chain Management under graduate exposure/ experience.
D	Students **WITH** previous (undergraduate) qualifications or exposure to **Logistics and Supply Chain Management AND Transport Economics** (on 3rd year).

All students must register for and pass a total of at least 8 modules (for a total of 120 credits). Depending on the undergraduate background, the number of compulsory and elective modules will differ. The tables below outline the compulsory modules per student profile listed above, as well as the elective modules that can be followed in both the Logistics and Supply Chain (LSCM) Management and Transport Economics focus areas.

COMPULSORY MODULES FOR 2022					
Module number	**Module [profile compulsory for]**	**Code**	**Semester**	**Lecturer**	**Credits**
D1	Intro to Transport Economics [A] [B]	13474 711	1	Mr R Kgwedi	15
D2	Intro to Logistics Management [A] [C]	13475 711	1	Ms UI Kussing	15
D3	Analysis Tools and Techniques [A] [B] [C] [D]	13477 711	1	Prof JH Nel	15
D4	Supply Management [A] [B] [C] [D]	11480 771	1	Prof LL Goedhals-Gerber	15
11	Introduction to forecasting [A] [B] [C] [D]	10911 723	1	Mr HW Freiboth	15

NOTE: *D3 – Analysis Tools and Techniques* cannot be taken by students that had *Quantitative Management* or *Business Analytics* as a major for their undergraduate degree, or that passed *LSCM 344* at Stellenbosch University.

ELECTIVE MODULES FOR 2022 – LOGISTICS AND SUPPLY CHAIN MANAGEMENT FOCUS					
Module number	**Module**	**Code**	**Semester**	**Lecturer**	**Credits**
6	Supply Chain Forecasting and Planning*	11481 722	2	Prof JJ Louw	15
9	Customer Service and Logistics Interface Management	11485 722	2	Ms A de Bod	15
37	Warehouse Operations Management	13472 741	1	Mr L Roberts / Prof JJ Louw	15
A, B, C & D: Choose at least one of the above modules * Pass prerequisite: Final mark of at least 65% for Module D4 Supply Management					

ELECTIVE MODULES FOR 2022 – TRANSPORT ECONOMICS FOCUS					
Module number	**Module**	**Code**	**Semester**	**Lecturer**	**Credits**
17	Road Transport Management	59145 744	1	Mr M October / Mr JA van Rensburg	15
34	Maritime Economics	12995 773	1	Mr G Dekkers / Mr R Kgwedi	15
41	International Trade Transport Infrastructure and Logistics	13076 744	2	Mr J van Rensburg	15
A & B: Choose at least one of Modules 17 & 41 (Module 34 may NOT be taken) **C & D:** Choose at least two of the above modules					

ADDITIONAL ELECTIVE MODULE FOR 2022					
Module number	**Module**	**Code**	**Semester**	**Lecturer**	**Credits**
25	Forecasting [Operations Research]	10933 753	2	Prof JH Nel	15
A, B, C & D: Module 25 can be chosen if a student passed the *Introduction to Forecasting* module in the first semester. This module has a very strong quantitative focus and is only recommended to students that had *Quantitative Management* or *Business Analytics* as a major at undergraduate level.					

OVERVIEW

The Diploma in Transport and Logistics will provide graduate students with no prior Logistics Management or Transport Economics training with the core knowledge and skills about Transport Economics and Logistics Management. The qualification is thus aimed at people entering the business or professional environment that are suitably qualified in a specific field of knowledge, but lack the Transport and Logistics management background. It provides the opportunity to students to ensure a competitive advantage and to broaden career prospects. The qualification is also aimed at BCom Logistics and Transport Economics students that want to further their education, without having to complete an Honours research project.

MINIMUM ADMISSION REQUIREMENTS

The minimum admission requirement is a three-year Bachelor's degree in any field. Applicants in possession of a three-year Bachelor's degree must have at least 55% in their core subjects.

Students with no or limited experience in Logistics Management and Transport Economics, are required to enroll for the introductory modules (Introduction to Transport Economics and Introduction to Logistics Management). Students with Logistics or Transport Economics at third year level may not enroll for the introductory modules. They enroll for more elective modules.

DURATION

One year full-time from January to November.

VENUE
The programme is presented on the main campus of Stellenbosch University in Bosman Street, Stellenbosch.

COURSE FEES

The course fee amounts are available from the Student Fees department of Stellenbosch University. Request a quotation at: http://www.sun.ac.za/english/maties/fees/provisional-statement-of-fees-(quotation)

STUDY MATERIAL

Text books are used in the modules in the programme and details are made available at the beginning of each module.

NQF LEVEL AND CREDITS

This postgraduate diploma is presented at NQF level 8 (120 credits).

LECTURES

All modules will be presented in English.

MODULE LECTURERS

The lectures are primarily presented by lecturers of the Department of Logistics at Stellenbosch University. Occasionally, lectures are presented by guest speakers.

ASSESSMENT & EXAMINATION

Student progress is monitored by means of a continuous assessment scheme. Assessment schemes tend to be classical, focusing on individual performance, while allowing some credit for group work. Schemes may differ from module to module but will mainly fall in the following categories:

- Short class tests covering pre-reading on preparation;

- A final comprehensive test evaluation higher order learning outcomes, mainly integration by means of case studies or other applications;
- Individual or group assignments; and
- Case studies – written analysis or presentations.

APPLICATION

The application process is as follows:

- For current students of Stellenbosch University – apply electronically on www.mymaties.com (Administration A contact: Mr J Flandorp, jacquin@sun.ac.za, 021 808 4383)
- For new students – apply electronically on www.maties.com or send an email to info@sun.ac.za contact 021 808 9111 (Administration A contact: Mr J Flandorp, jacquin@sun.ac.za, 021 808 4383)

The closing date for applications is 30 September for international applicants and 31 October for South African applicants.

SELECTION

Only a limited number of students are accepted each year on the ground of their qualifications and/or performance in bachelor's degree.

The selection process will commence soon after the closing date for application whereafter students will be notified per e-mail whether they are accepted into the programme.

Applicants who are accepted into the programme will receive additional information per email. The information will include a list of important dates and a confirmation letter that has to be completed and returned to the Department of Logistics to verify participation in the programme.

GRADUATION

The Post-Graduate Diploma will be awarded to successful students during the December or March graduation ceremony. This post-graduate diploma will represent 120 credits on the NQF level 8.

CONTACT DETAILS

Further information can be obtained from:
Ms JM Van der Merwe
Room 3004, Van der Sterr building
021 808 4172
jacomienvdm@sun.ac.za

PROGRAMME DESCRIPTION

From the largest manufacturers to the smallest producers, any company that purchases and/or sells products, has a need for logistics professionals to manage the flow of products and information locally, nationally and internationally. Service entities like hospitals and restaurant chains must also manage logistics activities. The emphasis in this programme is on strategic, tactical and operational management of the supply chain of a business, and secondly, on transport planning and investment in transport infrastructure in the public and private sectors.

PROGRAMME OUTCOMES

The Post graduate Diploma in Transport and Logistics equips graduates with the ability to:

- analyse the supply chain processes;
- analyse management and economic principles in air, maritime and overland transport;

- analyse facility management with regards to port operations, warehouse management and material handling; and to
- synthesize the complex and multifaceted issues in transport planning and appraise modal options available.

On accessing, processing and managing information and producing and communicating information, the Post graduate Diploma in Transport and Logistics equips graduates with the ability to:

- gather and synthesize relevant information from relevant sources for investigating specific logistic and transport problems;
- use appropriate tools to process and manage logistics and transport data and information; and to
- manage relevant data and information and effectively communicate such information in written documents.

On, ethics and professional practice, management of learning and accountability, the Post graduate Diploma in Transport and Logistics equips graduates with the ability to:

- work with public and private sector groups and understand the nature of interactions that can generate the collaborative and creative actions to deal with issues in transport and logistics, and
- to be responsible in managing the processes in the transport and logistics contexts.

FREQUENTLY ASKED QUESTIONS

Who qualifies for the Post Graduate Diploma in Transport and Logistics?

Anybody with an undergraduate degree that did NOT specialise in Logistics Management and/or Transport Economics can apply for the programme. BCom Logistics Management or Transport Economics graduates that do not qualify or are not accepted in the Honours programmes can apply for this programme. The programme is aimed at broadening your career possibilities. During the selection process undergraduate marks and all other qualifications and experience are taken into consideration. It is our aim to protect the quality of the interaction during lectures – therefore a selection process does apply and we do not simply allow all applicants to participate. Applicants are welcome to include in their applications any motivational letters or information that could increase their selection potential.

When is the closing date for applications?
The closing date for applications is 31 October.

But my final marks are not yet available on 31 October when the applications close?
Students are conditionally selected based on their available marks – when the programme commences in January of each year students have to provide proof of the completion of their degree. If the student only graduates in March/April graduation ceremony of Stellenbosch University, a letter of proof from administration is also acceptable.

When will I know whether I have been accepted for the Post-Graduate Diploma in Transport and Logistics?
Selection for the programme usually takes place during the first three weeks of November whereafter applicants are notified by e-mail whether their applications were successful. More information about the programme is also provided.

Is this a part time programme?
The Post-Graduate Diploma in Transport and Logistics is a FULL-TIME programme and participants are NOT allowed to have full-time jobs. Lectures will take place during the day.

DETAILED MODULES

MODULE D1

13474 711 Introduction to Transport Economics

Course objective

Transportation plays a critical role in the economic development of societies. In many instances, countries with well-developed transport industries and infrastructures have seen faster rates of economic development and have become highly competitive in the global market. Therefore, it is imperative that those involved in the operational, tactical and strategic sectors of the transport industry possess a thorough background of appropriate knowledge required to achieve the benefits associated with transportation. In this module a selection of topics relevant to the functions of transport, elements of transport demand, infrastructure provision, transport policy and regulation, modal cost structures and the economic evaluation of transport projects will be covered.

Course Content

Section 1:
Introduction
The functions of Transport
The components of transportation
The space/time relationship
The economic characteristics of transport

Section 2:
The elements of a transport system
Transport modes
Modal competition
Intermodal transportation

Section 3:
The factors influencing the demand for transport
The Urban Transport Modelling System (UTMS)
Transport demand analysis

Section 4:
Income distribution aspects
Elementary traffic flow theory
Transport economic project evaluation

Section 5:
Urban transportation
Transportation and land use / urban form
Urban land use models
Urban mobility
The urban transport problem and solutions

Remarks

1. The module is presented during the first semester.
2. The module carries 15 credits.
3. This module is compulsory for students with NO previous (3rd year) qualifications or exposure to Transport Economics.
4. This module cannot be taken by students that had Transport Economics as a major for their undergraduate degree.

MODULE D2

13475 711 Introduction to Logistics Management

Course objective

The student should be able to describe the basic functioning of a logistics channel. It is important to identify, illustrate and appreciate the contribution of all the major activities involved in logistics. The student should be able to articulate the major differences between the inbound and outbound logistics systems.

Course content

1. Introduction to Logistics & Supply Chain Management
2. Dimensions of Logistics
3. The Inbound Logistics System
4. The Outbound Logistics System
5. Major Activities involved in Logistics (Inventory Management, Transport, Storage, Packaging, Handling, Documentation, etc.)

Remarks

1. This module is presented during the first semester.
2. The module counts 15 credits.
3. This module is offered residentially only.
4. This module is compulsory for students with NO previous (3rd year) qualifications or exposure to Logistics or Supply Chain Management.
5. This module cannot be taken by students that had Logistics or Supply Chain Management as a major for their undergraduate degree.

MODULE D3

13477 711 Analysis Tools and Techniques

Course objective

The increasing availability of data and computational power, combined with the general tendency of managers to base decisions on proper analysis of data, increases the demand for employees with analytical skills. This course aims to introduce students to analytical tools and techniques to be able to solve basic problems as well as recognise the opportunities for improvements in the operational environment, through the application of the learnt knowledge and skills or by related but more advanced techniques.

Course content

1. Business mathematics and Excel
2. Linear programming
3. Network modelling
4. Queueing Theory
5. Simulation

Remarks

1. This module is presented during the first semester.
2. The module counts 15 credits.
3. This module is offered residentially only.
4. This module is compulsory for students with NO previous (3rd year) qualifications or exposure to Quantitative Management or Business Analytics.

5. This module cannot be taken by students that had Quantitative Management or Business Analytics as a major for their undergraduate degree.

MODULE D4

11480 771 Supply Management

Course objective

It is important for a business to analyse logistics processes and to focus on streamlining the processes. The business should consider practises to minimise logistics environmental impact and waste. Aspects such as warehousing, packaging and materials handling activities should be considered. Product delivery through transport service providers should be coordinated.

Course content

1. Global procurement and sourcing
2. Supplier management
3. In-house and outsourced production operations and supply chain execution
4. Warehousing
5. Materials handling
6. Packaging
7. Transportation (inbound and outbound)
8. Reverse logistics

Remarks

1. This module is presented during the first semester.
2. The module counts 15 credits.
3. This module is compulsory for all PGDip (Transport and Logistics) students.

MODULE 6

11481 722 SUPPLY CHAIN FORECASTING AND PLANNING

Course objective

This module centres around what supply chain planning entails. It covers the planning processes for supply chain decision making. Planning drives the supply chain. It orchestrates the flow of materials and resources requirements, getting materials, goods and products to the right location at the right time, in the right sequence to meet customer requirements. Effective planning balances demand and supply, internal and external objectives, all in a constantly changing environment.

Supply chain planning spans across long-, medium- and short-term time horizons. Supply chain planning is dependent on the availability of the right information, and thus, sharing thereof between functional departments and supply chain partners. Supply chain planning support the drive for internal cross functional co-operation (breaking silo mentality) as well as external decision integration with supply chain partners.

Course content

1. Planning across demand and supply domains.
2. Forecasting models.
3. Practices of aligning supply chain tactical planning with supply chain strategy and overall business goals.
4. Enabling technology for S&OP planning processes.

Remarks

1. This module is offered during the second semester.
2. This module counts 15 credits.
3. The module is offered residentially only.
4. PGDipl students that want to take this module can only do so if they have a final mark of at least 65% for Module D4 Supply Management.

MODULE 9

11485 722 CUSTOMER SERVICE AND LOGISTICS INTERFACE MANAGEMENT

Course objective

The ultimate effect of logistics and supply chain activities / processes should meet the targeted customer requirements. Managing the interface between sales and logistics is of vital importance. Balancing the performance-related and cost-related targets remains a challenge.

Customer service is the source of customer information. It also provides the customer with real-time information on scheduling and product availability through interfaces with the company's production and distribution operations. Customer service is also a process for providing significant value-added benefits to the supply chain in a cost-effective way.

Course content

1. Introduction to Customer Service and Logistics Interface Management
2. Customer service dimensions and measurement
3. Customer Service's role in demand management
4. Customer Service strategy development
5. Customer service performance management
6. The customer service and customer relationship process across the value chain
7. Reverse marketing or Supplier Development

Remarks

1. The module is presented during the second semester.
2. The module counts 15 credits.
3. The module is offered residentially only.

MODULE 11

10911 723 INTRODUCTION TO FORECASTING

Course objective

Customers and business organisations are increasingly generating data – massive amounts of data. At the same time, we have seen increases in computer processing power that allows us to connect to, clean, structure and analyse large data sets with relative ease. This holds exciting possibilities from economic and management perspectives, if we can utilise this data to search for trends, patterns, and relationships, to make better decisions and plan for the future.

The aim of this module is to familiarise you with the data analytics process, specifically focussing on real-world data from the supply chain, logistics and transportation disciplines. Not necessarily “big data”, but hopefully larger datasets than you would have dealt with during your undergraduate studies. You will also learn how to

use suitable software packages to clean datasets and to perform appropriate analysis on the data, whether it is descriptive, diagnostic, or predictive analysis, and ultimately interpret and share the results in appropriate ways.

Course content:

1. Elementary statistics
2. Probability theory
3. Statistics and data, data types, data classification, data analytics process
4. Data collection, -connection, -preparation, and –exploration
5. Descriptive techniques (numerical and graphical)
6. Diagnostic techniques (hypothesis testing, correlation- and regression analysis)
7. Predictive techniques (time series analyses and forecasting)
8. Communicating results

Remarks

1. The module is presented during the first semester.
2. The module carries 15 credits.
3. This module is available to residential students only.
4. This module is compulsory for all PGDip (Transport and Logistics) students.
5. Passing this module is a pass prerequisite for Module 25 (Forecasting).
6. Students who have taken Operations Research 3 may not follow this module.

MODULE 17

59145 744 ROAD TRANSPORT MANAGEMENT

Course objective

The module is concerned with providing the student with a practical overview of the functions of freight and passenger transport management and recommend practices that can ensure efficiency, quality and effective delivery of service to customers. The purpose of this module is to enable students to comprehend the integrated nature of transport management so that they can contribute to the implementation of sound transport management principles in a transport environment. The road transport industry is highly competitive. Therefore it is imperative to have a thorough understanding of the appropriate management aspects in transport operations. In this module a selection of topics relevant to strategic, tactical and operations management are covered which are essential for successfully running a road transport firm. These core components of learning include knowledge of transport logistics, routing and scheduling, basic principles of road transport management and occupational health, safety and environmental protection that is applied in operating successfully in a road transport logistics environment.

Course content

1. The Logistics Network in South Africa
2. Legislation in road transport
3. Operations and Planning
4. Load Compiling Systems
5. Controlling the Fleet
6. Monitoring Fleet Performance
7. Costs and Expenditures
8. Cost Accounting System

Remarks

1. This module is offered during the first semester, and is presented on a Hybrid-platform of face-to-face and online lectures and interaction.
2. This module counts 15 credits.

MODULE 25

10933 853 FORECASTING

Course objective

In addition to the general problems in time series data considered in Module 11 (Introduction to forecasting), there are several more intricate problems related to time series data which require more intricate techniques for the identification and forecasting process. Students are familiarised with these techniques in order to identify and solve these problems.

Course content

The module comprises three sections:

1. Section I – Revision of …
   - Basic inferential statistics
   - The linear regression model and the method of least squares
   - Diverging from basic assumptions
   - Dummy and lag variables
   - Test and evaluation criteria
2. Section II – Advanced forecasting techniques:
   - Stationarity of time series
   - Moving average and exponential smoothing models
   - ARIMA models
   - Short and long term models
3. Section III – Applications of Forecasting:
   - Data gathering and related problems
   - Single and multivariate functions
   - Modelling
   - Presenting and interpreting modelling results

Remarks

1. The module is presented during the second semester.
2. The module counts 15 credits.
3. Module 11 (Introduction to forecasting) or Operations Research 3 is a pass prerequisite for this module.
4. This module is available to residential students only.

MODULE 34

12995 773 MARITIME ECONOMICS

Course Objectives

Almost 90 per cent of the volume of international trade is seaborne. The globalisation of economic activities has led to fierce competition, resulting in lower freight rates to which the shipping business has had to adapt. This module focuses on the demand for shipping, with specific reference to South African imports and exports, as well as on the supply of shipping and the changes in the behaviour of shipping markets.

Course content

1. The main features of the ship
2. Ship design, construction & operation
3. Types of ships around the globe (cargoes, trades and future trends)
4. Maritime canals, inland waterways & seaports
5. Liner conferences & charter parties
6. Containerisation
7. Ship financing, management & governance

Remarks

1. This module is presented during the second semester.
2. The module counts 15 credits.
3. Transport Economics 318 and 348 are pass prerequisites for this module.

MODULE 37

13472 741 Warehouse Operations Management

Course objective

The operational management of warehouses typically oversee the distribution and storage of inventory for a manufacturing company (or where the function is also outsourced to a logistics service provider). Although student studying in the field of logistics and supply chain management focus on process integrating principles and cost analysis, students can also prepare to become more knowledgeable in distribution/transport activities (establishing functional excellence).

Students will be exposed to the key aspects of inventory control and materials handling. They can develop their knowledge of receiving and storing materials with a focus on contributing to greater profitability. Lecturers will also guide the students through the processes of material processing, including the picking and shipping of goods. Case studies and a site visit(s) will complement the learning. Students will get exposure to the technologies and computer systems used to assist operational management in maintaining inventory, scheduling, operating, monitoring and controlling operations, and forecasting supply needs. Since warehouse operations also require the management of people in fulfilling numerous key functions, the concepts and practices of sound supervision and labour relations will also be covered. Warehouses are fixed installations that need compliance to specific legislation (Acts and Regulations). An overview of the applicable governing legislation will also be covered (e.g. OSH act, Labour Relations Act.).

Course content

1. ***Inbound Warehouse Operations*** related to product receipt, material handling, inspection & quality control, put-away, storage and replenishment.
2. ***Outbound Warehouse Operations*** related to product picking, checking, packing, compliance labelling, staging and despatch to customers.
3. ***Warehouse Operational Support*** related to inventory control, order entry, order processing and inventory replenishment, performance management, automated and enabling warehousing technology (e.g. bar code scanning and radio frequency (RF) data communication, resulting in a paperless distribution environment).

Remarks

1. The module is presented during the first semester.
2. The module counts 15 credits.
3. The module is offered residentially only.

MODULE 41

13076 744 INTERNATIONAL TRADE, TRANSPORT INFRASTRUCTURE AND LOGISTICS

Course objective

The growth of the South African economy is dependent on the current and future trade of resources with neighbouring and international countries. This entails the import and export of various commodities, including human capital, based on sound theoretical principles in political environments that are cost effective. This module focusses on various topics relevant to the export and import trade market and the optimal transport infrastructure to be used for these trade activities, including the correct logistical processes to be undertaken.

Course content

1. Introduction to International trade and trade theories
2. Trade in the Global Economy
3. Trade economics
4. International Ocean Transportation
5. International Air Transportation
6. International Land and multimodal Transportation
7. International Logistics Functions and Intermediaries
8. Terms of sale and payment
9. Documentation and insurance

Remarks

1. The module is presented in the second semester, and is presented on a Hybrid-platform of face-to-face and online lectures and interaction.
2. This module counts 15 credits.
