

**DEPARTMENT OF LOGISTICS  
UNIVERSITY OF STELLENBOSCH**

**POSTGRADUATE INFORMATION:  
LOGISTICS MANAGEMENT  
2019**

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## LOGISTICS MANAGEMENT POSTGRADUATE MODULES

Anchor programmes:

BComHons (Logistics Management)

Programme module

Code	Module	Credits	Module Name
50407	778	120	BComHons (Logistics Management)

MCom (Logistics Management)

Programme module

Code	Module	Credits	Module Name
50407	879	180	MCom (Logistics Management) Full Thesis option

MCom (Logistics Management)

Programme modules

Code	Module	Credits	Module Name
50407	899	180	MCom (Logistics Management) Coursework- and Thesis option

MODULES FOR 2019				
Module number	Module	Code	Lecturer	Credits
<b>First semester</b>				
9	Customer Service and Logistics Interface Management [LM] [Compulsory]	11485 722	Ms A de Bod	15
11	Introduction to forecasting [LM] [Compulsory]	10911 723	Mr H Freiboth	15
17	Road transport management [TE]	59145 744	Mr RA Janse van Rensburg	15
32	Supply Management (Outbound) [LM] [Compulsory]	13078 714	Prof L Goedhals-Gerber	15
<b>Second semester</b>				
25	Forecasting [OR]	10933 753	Prof JH Nel	15
29	Supply Chain Performance Management & Technology Enablement	11483 722	Ms U Kussing	15
31	Supply Management (Inbound) [LM] [Compulsory]	13077 714	Mr A de Swardt	15
44	Capita Selecta (Visual SC Data Analysis)	11571 771	Prof JJ Louw	15
Pass Prerequisite: Module 11 or OR 3 is a pass prerequisite for Module 25		Research Seminar, first and second semester: Logistics Management BComHons 11047 773		30
		LM MCom 150 11238 884	(The 150 credit LM MCom program requires coursework of 30 credits)	
		180 11238 828		

### Other elective modules not being offered this year:

- Supply Chain Management in the Humanitarian Context – Introduction
- Integrated Supply Chain Planning
- Packaging Logistics Development
- Warehouse Operations Management [LM]

## **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 first semester.
  2. The module counts 15 credits.
  3. The module is offered residentially only.
  4. This module is compulsory to Honours students.
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## **MODULE 11**

### **10911 723 INTRODUCTION TO FORECASTING**

#### **Course objective**

Planning and control of logistic activities require accurate numerical estimates of:

- Future product and service volumes which will be dealt with in the logistic chain, and
- Future conditions which might impact on logistic activities.

Time series data, in particular economic data, form an integral part of these estimates. There are, however, general problems in time series data which must be addressed by the forecaster before making meaningful forecasts. The purpose of this module is to familiarise students with the identification of problems and the proper steps to be taken to avoid these problems. Students also develop competency in the use of computer software to be used for analysis and forecasting.

#### **Course content:**

1. Elementary statistics
2. Probability theory
3. Basic inferential statistics
4. The linear regression model and the method of least squares
5. Multicollinearity
6. Heteroscedasticity
7. Autocorrelation
8. Dummy and lag variables
9. Time series analyses
10. Applications in logistics

#### **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 students enrolled for the Honours program in Logistic Management and the Honours program in Transport Economy.
  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.
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## **MODULE 17**

### **59145 744 ROAD TRANSPORT MANAGEMENT**

#### **Course objective**

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.

#### **Course content**

1. The role of road freight transport in the logistical chain
2. Detailed vehicle costing and control
3. Financial aspects of vehicle purchasing, management and replacement
4. Client service and marketing of the transport product
5. Analysis of current road transport legislation

#### **Remarks**

1. This module is offered during the first semester.
  2. This module counts 15 credits.
  3. Logistics Management 244 and/or Transport Economics 318 and 348 is a pass prerequisite for this module.
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## **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:

##### **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

##### **Section II**

Advanced forecasting techniques:

- Stationarity of time series
- Moving average and exponential smoothing models
- ARIMA models
- Short and long term models

##### **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 carries 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.
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## MODULE 29

### 11483 722 SUPPLY CHAIN PERFORMANCE MANAGEMENT AND TECHNOLOGY ENABLEMENT

#### Course objective

The management of a supply chain's performance has become one of the key mechanisms to reaching excellence. Supply chain performance management can offer a structured way to identify and address performance issues of a supply chain. Performance management can enable more effective analyse and improvement of individual supply chain processes. It's aimed at providing operational information and insights across the supply chain by tracking key supply chain metrics (e.g. product quality, inventory levels and delivery performance). Proper performance management will also contribute to the drive for drive proper business management. (Integrate individual performance management with business management).

Supply chain performance management is based on the concept of measuring and managing performance at every level of the supply chain, using standards such as the Supply-Chain Operations Reference model (SCOR®), Six Sigma and Total Quality Management (TQM), and tools like dashboards and scorecards. The purposes for a performance measurement would include: decision support, monitor effect of strategic plans, performance evaluation, diagnosis, manage a continuous improvement process, motivation and comparison.

Sound information management required timely and accurate information available to enable supply chain business processes. This aims to ensure proper information accessibility and visibility to all parties involved through the use of appropriate enabling technology. Enabling technology should be simplified, standardised and aim to eliminate duplication of information where possible.

The categories of business processes involved in supply chain management are planning-, execution- and control. Planning processes further break down into strategic-, tactical-, and operations processes. Planning processes predominantly require information for decision support (ensuring effective supply chains) while execution- and control processes require transactional information (ensuring efficient supply chains).

#### Course content

1. Key supply chain performance indicators that affect business performance;
2. Drive improvements through effective performance indicators;
3. Rewards, process changes, dashboards and scorecards;
4. Performance evaluation, diagnosis;
5. Supply chain planning and execution system management;
6. Selection, and implementation enabling technology.

#### Remarks

1. The module is presented during the second semester.
  2. The module counts 15 credits.
  3. The module is offered residentially only.
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## MODULE 31

### 13077 714 SUPPLY MANAGEMENT (INBOUND)

#### Course objective

Students will learn the language of the subject matter and be equipped with the relevant procurement, supply and inventory management practices typically found in inbound segments of a manufacturing organization's supply chain (Source and Make). This module is designed to explore the procurement cycle within the context of supply chain management from acquisition to disposal of goods (and services). The major phases of supply management will be covered, i.e. generation of requirements, sourcing, pricing, agreement development, and post award activities including evaluation processes. Students will also be sensitized to the procurement decision interfaces with the other major business functions, including marketing, finance-accounting, operations, logistics, and research and development. The major operational/execution processes of the inbound supply chain will also be covered. It is based on a number of existing supply chain conceptual models that highlight these as core/functional skill areas.

**Source** - *The processes associated with ordering, delivery, receipt and transfer of raw material items, subassemblies, products and/or services.*

**Make** - *The process of adding value to products through, e.g. mixing, separating, forming, machining, and chemical processes.*

#### Course content

1. Supply Management: An Organizational Spanning Activity
2. Purchasing Descriptions and Specifications
3. Local and global sourcing, and trade considerations
4. Cost and Price analysis (Total Cost of Ownership)
5. Procurement risk management practices
6. Negotiation, contract formation, legal issues, and supplier management
7. Production and inventory control

#### Remarks

1. The module is presented during the first semester.
  2. The module counts 15 credits.
  3. The module is offered residentially only.
  4. This module is compulsory.
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## **MODULE 32**

### **13078 714 SUPPLY MANAGEMENT (OUTBOUND)**

#### **Course objective**

Students will learn the language of the subject matter and be equipped with the relevant practices typically found in outbound segments of an organization's supply chain (Deliver and Return). The Deliver section of the module will map out the major types of outbound supply chain configuration. It will consider process integration requirements and map out ideal process flows; conduct business process analysis and streamlining, and cover process control and quality management. The Deliver section covers essential elements needed to manage warehousing, packaging and materials handling activities (facilities management) as well as coordinate product deliveries (transport service providers). An overview of the use of relevant documentation to manage deliveries effectively is provided. Core aspects of maritime logistics are also covered. In the Return section of the module, practices to minimise the logistics environmental impact and waste are considered and product returns management and reverse logistics practices are explained.

#### **Course content**

1. Distribution channels;
2. The physical distribution concept ("outbound logistics");
3. Client service;
4. Transport, Warehousing, Materials handling, and Packaging function;
5. Distribution costing and control;
6. Information and control;
7. Logistics coordination and control;
8. Reverse logistics;
9. Sustainability.

#### **Remarks**

1. The module is presented during the first semester.
  2. The module counts 15 credits.
  3. The module is only offered residentially.
  4. The module is presented in English.
  5. This module is compulsory.
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## MODULE 44

### 11571 771 CAPITA SELECTA (VISUAL SC DATA ANALYSIS)

#### Course objective

Students following this module, can develop important analytical competences and be able to visually present and communicate supply chain (SC) related data more effectively. Students will be introduced to the structured process of "exploratory data analysis"; with a time-efficient progression from raw SC data to information to insight. This module covers inter alia the different ways to connect to a variety of types of data sources, doing exploratory data analyse and visualisation, and answer the questions at hand. The foundation of data visualization techniques and - principles, effective data analysis techniques and visualization best practices will be covered. Although an overview of current analytical tools will be done, this module will only focus in the correct use of one or two of the prominent data visualization software packages.

#### Course content

- Visualization theory, related concepts, terminology and different visualization types.
- The structured "exploratory data analysis" process (e.g. data collection, pre-processing, definition, structuring, organizing, simplifying, cleaning, coding, hierarchies, formatting, testing, exploring).
- Dealing with different data sources (doing joins and blends; working with relational data tables).
- Proficiency with basic and slightly advanced quantitative and qualitative SC data analysis.
- Computer-supported, interactive, visual representation of abstract data to amplify human cognition (sensitive to the human's pre-attentive visual processing).
- Building simple to complex visualizations and how to combine them in interactive dashboards.
- Establishing effective story boards and sharing visualizations.

#### Remarks

1. This is an elective module in the Logistics Management honours programme.
2. This module is presented during the second semester.
3. Students from other postgraduate programmes, with appropriate computer, analytical proficiency and have done at least some basic logistics and SC management introductory modules, can also be considered for the module.
4. Due to computer lab constraints, only a limited number of students can be accommodated. The class will be limited to 24 students; Students that want to follow this module are screened and selected primarily based on their academic performance (preliminary selection will take place during the period 28 Jan 2019 - 15 Feb 2019; a class list to be finalised by 22 Jul 2019).
5. The module counts 15 credits.
6. The module is offered residentially only.