6.5 Module 5: Technology for Procurement Professionals

6.5.1 Headline information about the module

Module title	Technology for Procurement Professionals
Module NFQ level (only if an NFQ level can be demonstrated)	9
Module number/reference	MPSCM-TPP
Parent programme(s) the plural arises if there are embedded programmes to be validated.	MSc in Procurement and Supply Chain Management
Stage of parent programme	1
Semester (semester1/semester2 if applicable)	1
Module credit units (FET/HET/ECTS)	ECTS
Module credit number of units	5
List the teaching and learning modes	Full time, part time
Entry requirements (statement of knowledge, skill and competence)	Learners must hold an honours degree of at least a H22 standard in a business or management related field or equivalent qualification from an approved tertiary or professional institution.
Pre-requisite module titles	Not applicable
Co-requisite module titles	Not applicable
Is this a capstone module? (Yes or No)	No
Specification of the qualifications (academic, pedagogical and professional/occupational) and experience required of staff (staff includes workplace personnel who are responsible for learners such as apprentices, trainees and learners in clinical placements)	Lecturing staff should hold a masters Level (Level 9) qualification in procurement/supply chain management, preferably with a third level teaching qualification (e.g. Certificate in Training and Education).
Maximum number of learners per centre (or instance of the module)	60
Duration of the module	12 weeks
Average (over the duration of the module) of the contact hours per week (see * below)	3
Module-specific physical resources and support required per centre (or instance of the module)	Normal lecture room with internet access and good-quality audio-visual equipment.

Analysis of required learning effort		
***Effort while in contact with staff**	**Minimum ratio teacher / learner**	**Hours**
Classroom and demonstrations	1:60	24
Monitoring and small-group teaching	1:30	12
Other		
Independent Learning		
Directed e-learning (hours)		
Independent Learning (hours)		89
Other hours (group project)		
Work-based learning hours of learning effort		
Total Effort (hours)		125

Allocation of marks (within the module)					
	Continuous assessment	**Supervised project**	**Proctored practical examination**	**Proctored written examination**	**Total**
Percentage contribution	60		40		100%

6.5.2 Module aims and objectives

This module is divided into two parts. **Part 1** introduces the learners to quantitative analysis approaches in logistics and supply chain management. Learners will explore how to use spreadsheets to model various problems in supply chain and logistics management. **Part 2** will see the learner investigate how the mainstream supply chain information systems work, how information technology can improve the efficiency of supply chain management, and what are the up-to-date information technology used in logistics and supply chain management to allow for greater visibility, better integration and 'leaner' supply chains in more sustainable systems of control and delivery.

6.5.3 Minimum intended module learning outcomes

On successful completion of this module, learners are able to:

(i) Apply modelling skills in analysing complex problem in the field of logistics and supply chain management and the broader field of operations management.
(ii) Develop and appreciation of logistics and supply chain modelling and control, and apply into work place in the future.
(iii) Analyse organisational data and apply modelling techniques as part of the business process re-engineering requirement of the assessment, clearly identifying where current business processes can be challenged, what those challenges will be and, how 'greening' will occur / be measured.
(iv) Demonstrate a critical understanding of the benefits from implementing information technology in supply chain management to allow for the adoption of lean processes where possible, and to increase supply chain visibility to allow for the development of a more sustainable system.

6.5.4 Rationale for inclusion of the module in the programme and its contribution to the overall MIPLOs

The module integrates knowledge and skills from across the programme to provide learners with opportunities to develop their professional skills including: oral communication skills; presentation skills; team-working skills; commercial awareness; and awareness of global and cultural issues in business.

6.5.5 Information provided to learners about the module

The Programme Handbook contains the module descriptor and assessment details. Extensive use of the VLE, Moodle, provides detailed notes and additional resources. In class, learners are provided with a PowerPoint pack and extensive reading list, incorporating professional and academic sources.

6.5.6 Module content, organisation and structure

Throughout the laboratory, lectures, case studies and group discussions it is the aim of the module to cover the following content:

Part 1: Supply Chain and Logistics Modelling and Control (using spreadsheets)
Laboratory cases will cover topics such as:

- supply chain network design – deterministic and stochastic supply chain network design, assessment of supply chain network reliability
- matching demand and supply – aggregate planning, sales and operations planning, supply chain coordination
- stochastic inventory management – optimisation of threshold based inventory control policy with uncertain customer demands
- managing cross-functional drivers – sourcing decisions, pricing and revenue management, sustainable supply chain management.

Part 2: Supply chain information systems and technologies

- Supply chain information systems
- Enterprise Resource Planning (ERP)
- Material Requirements Planning (MRP)
- Capacity Requirement Planning (CRP)
- Collaborative Planning, Forecasting and Replenishment (CPFR)
- Vendor-management inventory (VMI)
- Investigate the most up-to-date information technology in logistics and supply chain management strategies to gain supply visibility and replace inventory with information – case studies
- Integration of IT and Supply Chain Management
    - the role of IT in SCM, online sales
    - ERP/ POS/ WMS / GPS/ GIS/ 3PL, RFID, databases, data mining and data extraction as bills of materials, ASNs etc.
    - e-procurement
    - e-bid and e-auction
    - reverse logistics
- eProcurement and supply chain disruption
    - future trends and systems

6.5.7 Module teaching and learning (including formative assessment) strategy

A range of delivery methods are adopted, including lectures, tutorials, IT laboratory and in-class exercises using a range of professional and academic sources. These are designed to engage learners in the module content, and associated competencies that the programme team wishes learners to develop over the course of the module. Learners' guided independent reading and research is supported by use of Moodle to prepare learners for their classes in addition to developing autonomous self-directed learners.

6.5.8 Work-based learning and practice-placement

There is no work-based learning on practice-placement within this module.

6.5.9 E-learning
E-learning supports are provided via the college's online learning environment, Moodle, including extensive library resources.

6.5.10 Module physical resource requirements
Normal lecture room with internet access and good-quality audio-visual equipment. Computer lab required for Excel and data analysis tutorials. All learners have access to an extensive range of "actual" and "remote access" library resources. The library monitors and updates its resources on an ongoing basis, in line with the College's Library Acquisition Policy. Lecturers update reading lists for this programme on an annual basis.

6.5.11 Reading lists and other information resources
Learners can draw on reading lists from their other modules in addition to the resources below.

Primary Reading

Manohar, H.L, (2017) Data analysis and business modelling using Microsoft Excel. Prentice-Hall
O'Sullivan, S. (2019) Supply Chain Disruption: Aligning Business Strategy and Supply Chain Tactics. Kogan Page.

Secondary Reading

Schoenherr, T. (2018) The Evolution of Electronic Procurement: Transforming Business as Usual: 1st Edition. Palgrave Pivot
Winston, W. (2016) Microsoft Excel Data Analysis and Business Modelling (5th Edition). Microsoft Press.

6.5.12 Specifications for module staffing requirements
Lecturer(s) should be qualified to at least masters level, preferably with a third level teaching qualification (e.g. Certificate in Training and Education).

6.5.13 Module summative assessment strategy
Part 1: Assessment of the learner's progression is assessed during the PC Lab sessions where learners are provided with problem solving exercises and expected to be to apply spreadsheet modelling in solving different supply chain management and logistics issues.

Learners are divided into groups and problems provided to each group. Learners need to complete the assessment in the lecture\Lab itself and feedback is provided in the same lecture or subsequent lecture. These sessions accumulate to 40% of the module assessment.

Part 2: End of semester summative assessment entails a half-day case study project, which is completed individually at a 60% weighting.

The assessed work breakdown is presented in the table below:

No	Description	MIMLOs	Weighting
1	Proctored practical exam	(i), (ii)	40%
2	Continuous assessment - timed in-class case study	(iii), (iv)	60%

6.5.14 Sample assessment materials
Please see Sample Assessment Handbook.