NATIONAL CERTIFICATES (VOCATIONAL)

SUBJECT GUIDELINES

TRANSPORT OPERATIONS

LEVEL 4

IMPLEMENTATION: JANUARY 2014
INTRODUCTION

A. What is the subject Transport Operations Level 4 about?

The nature, strategic role and objectives of transport management and planning are fundamental to the success of a transport business. The influence of strategic and tactical planning on the operations of a transport business is explored to enable proper selection of a suitable mode of transport. This subject focuses on the strategies used to execute operations and achieve the objectives as well as the structure and design of a typical transport business where capacity is optimised and profitability is ensured. The importance, function and role of transport services are explained within the wider economy.

The transportation of abnormal loads and hazardous/dangerous goods are dealt with against the legislative framework and requirements for handling, loading and transporting these goods.

B. Why is the subject Transport Operations Level 4 important in the learning programme?

Transport Operations is important as it provides the student with:

• An appreciation for the interconnectedness and interrelationship between the various modes of transport within the transport industry.
• An appreciation for the transport value system
• An appreciation for the role and function of transport services in other industries, and how it influences costs.
• An opportunity to apply the passenger transport principles in the wider transport industry and in terms of customer (passenger) service delivery.
• An opportunity to apply the compliance requirement in respect of the safe passenger transport operations.

C. How do the Learning Outcomes link with the Critical and Developmental Outcomes?

This subject will enable the student to achieve the following Critical Cross Field Outcomes:

• Identify and solve problems by using critical and creative thinking.
  o Students will have acquired the generic ability to identify and solve problems by using critical and creative thinking when giving information when selecting transport modes and applying the passenger transport operation functions.

• Organise and manage themselves and their activities responsively and effectively.
  o Students will have acquired the generic ability to organise and manage themselves when handling requests, complaints, claims, refunds and safe guarding of passenger belongings

• Collect, analyse, organise and critically evaluate information.
Students will have acquired the generic ability to collect, analyse, organise and critically evaluate information when selecting transport modes and applying the passenger transport operation functions.

- Communicate effectively using visual, mathematical and/or language skills in the modes of oral and/or written presentation.

- Students will have acquired the generic ability to communicate effectively using visual, mathematical and/or language skills in the modes of oral and/or written presentation when handling customer queries and requests in respect of passenger transport operation functions.

D. Which factors contribute to achieving the Learning Outcomes?

In general, the student should have an interest in the transport industry. This will facilitate ease of learning within the Transport Operations subject and the overall qualification. The following abilities are required for success in this subject:

- Good communication, reading and writing skills.
- Questioning skills and information searching skills.
- Hard work and dedication.
TRANSPORT OPERATIONS LEVEL 4

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1. DURATION AND TUITION TIME

This is a one-year instructional programme comprising 200 teaching and learning hours. The subject may be offered on a part-time basis provided the student meets all the assessment requirements.

Students with special education needs (LSEN) must be catered for in a way that eliminates barriers to learning.

2. SUBJECT LEVEL FOCUS

- The fundamental concepts and strategies and the structures and processes of transport management and related activities are explored.
- The importance and role of transporting services and costs on other industries and the economy is investigated.
- The legislative framework, the requirements and risks associated with the handling, loading and transportation of abnormal loads and hazardous/dangerous goods are examined.

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EXIT LEVEL OUTCOME 1
- Explain the fundamental concepts and strategies of transport management

ASSOCIATED ASSESSMENT CRITERIA
- The nature, strategic role and objectives of transport management and planning are explained.
- Management approaches and methods used in the management of transport services are explained.
- The relation between transport management and transport operations within the transport business is indicated.

EXIT LEVEL OUTCOME 2
- Explain the structures and processes guiding transport management operations

ASSOCIATED ASSESSMENT CRITERIA
- Strategies used to execute operations and achieve management objectives are described.
- The operations processes of a transport business are described from a systems perspective.

EXIT LEVEL OUTCOME 3
- Explore factors influencing capacity planning and optimisation.

ASSOCIATED ASSESSMENT CRITERIA
- The different methods used to determine the capacity and size of a typical transport business are examined.

EXIT LEVEL OUTCOME 4
- Investigate the importance of costing in the transport industry

ASSOCIATED ASSESSMENT CRITERIA
- The influence of transport costs and effective distribution is explained.

EXIT LEVEL OUTCOME 5
- Describe the legal requirements, operations and risks associated with the handling, loading and transportation of abnormal load.

ASSOCIATED ASSESSMENT CRITERIA
- Principles and risks associated with the transportation of abnormal loads are explained.
o The legislative requirements relating to permits, escort services and the transportation of abnormal loads are described.

**EXIT LEVEL OUTCOME 6**

o Describe the legal requirements, operations and risks associated with the handling, loading and transportation of dangerous goods.

**ASSOCIATED ASSESSMENT CRITERIA**

o The risks associated with transporting of dangerous goods and precautionary measures taken are explained.

o The legislative requirements for handling and transporting dangerous goods are described.

o The criteria and operations for disposal of hazardous materials are described.

**3. ASSESSMENT**

Information provided in this document on internal and external assessment aims to inform, assist and guide lecturers to plan the effective teaching of the subject.

The *Assessment Guidelines* accompanying this document provide detailed information for planning and conducting internal and external assessments.

**3.1 Internal assessment (50 percent)**

Detailed information regarding internal assessment and moderation is outlined in the current Internal Continuous Assessment (ICASS) Guideline document provided by the Department of Higher Education and Training (DHET).

**3.2 External assessment (50 percent)**

A national examination is conducted annually in October or November by means of a paper(s) set and moderated externally. A practical component, the Integrated Summative Assessment Task (ISAT) will be included in external assessment.


**4. WEIGHTED VALUES OF TOPICS**

<table>
<thead>
<tr>
<th>TOPICS</th>
<th>WEIGHTED VALUE</th>
<th>*TEACHING HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transport Management Principles</td>
<td>30</td>
<td>33</td>
</tr>
<tr>
<td>2. Costing and Costs of Transport Services</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>3. Transporting Abnormal Loads</td>
<td>25</td>
<td>27</td>
</tr>
<tr>
<td>4. Transporting Hazardous Goods</td>
<td>30</td>
<td>33</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td><strong>110</strong></td>
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</tbody>
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*Teaching Hours* refers to the minimum hours required for face to face instruction and teaching. This excludes time spent on revision, tests and internal and external examination/assessment. The number of allocated teaching hours is influenced by the topic weighting, complexity of the subject content and the duration of the academic year.

**5. CALCULATION OF FINAL MARK**

Internal assessment mark: Student's mark/100 x 50 = a mark out of 50 (a)

Final examination mark: Student's mark/100 x 50 = a mark out of 50 (b)

Final mark: (a) + (b) = a mark out of 100
All marks are systematically processed and accurately recorded to be available as hard copy evidence for, amongst others, reporting, and moderation and verification purposes.

6. PASS REQUIREMENTS
A student must obtain at least 50 percent (50%) in ICASS and fifty percent (50%) in the examination.

7. SUBJECT AND LEARNING OUTCOMES
On completion of Transport Operations Level 4, the student should have covered the following topics:

- Topic 1: Transport Management Principles
- Topic 2: Costing and Costs of Transport Services
- Topic 3: Transporting Abnormal Loads
- Topic 4: Transporting Hazardous Goods

TOPIC 1: TRANSPORT MANAGEMENT PRINCIPLES

Subject Outcome 1.1: Explore and explain fundamental concepts and strategies of transport management

Learning Outcomes
The student should be able to:

- Explain the nature, strategic role and objectives of transport management and planning.
- Tabulate the tasks performed by managers within the different transport environments.
- Describe the management approaches and methods employed by providing examples applicable to the transport industry and its operations.
  
  Range: Systems approach, quantitative and qualitative approaches: interrelation of systems, processes and procedures, project-driven management
- Indicate in an organizational chart, the relation between management and the various operations within a transport organisation/business.
  
  Range: Operations include marketing, purchasing, managing human resources, financial management, production management

Subject Outcome 1.2: Explain the structures and processes that guide transporting management operations

Learning Outcomes
The student should be able to:

- Differentiate between operations functions, operations managers and operations management.
- Describe strategies used in a transport business to execute operations and achieve management objectives.
- Categorise the operations processes of manufacturers and service providers.
- Describe the operations processes of a transport business from a systems perspective.

**Subject Outcome 1.3: Explore factors that influence capacity planning and optimisation**

**Learning outcomes**

The student should be able to:

- Outline in a chart the structure and design of a transport business.
- Examine the different methods used to determine the capacity and size of a typical transport business.
- Explain how the business location, design and structure relate to production planning and service delivery.

**Subject Outcome 1.4: Apply operations to schedule transportation and perform related activities**

**Learning outcomes**

The student should be able to:

- Compare and explain factors involved when selecting a mode of transport.
- Explain what is ‘route scheduling’ and investigate examples of bus, taxi, train and aviation route schedules.

**TOPIC 2: COSTING AND COSTS OF TRANSPORT SERVICES**

**Subject Outcome 2.1: Explain the importance, function and role of transport services within the wider economy**

**Learning Outcomes**

The student should be able to:

- Discuss the role and function of transport services on other industries and explain how it influences costs.
- Motivate the necessity of cost effective distribution and transport mechanisms.
- Explain the influence of transport costs on the costs of products and service provisioning in general.

**TOPIC 3: TRANSPORTING ABNORMAL LOADS**

**Subject Outcome 3.1: Examine the legislative requirements for handling and transporting abnormal loads**

**Learning Outcomes**

The student should be able to:

- Explain the aim, purpose and requirements of Chapter 9 of the National Road Traffic Act that deals with the transportation of abnormal loads.
- List the requirements relating to permits for operating vehicles with abnormal loads.
- Describe the requirements relating to escort services when transporting abnormal load goods.
- Explain the incorporation of the SABS code of practice with regard to abnormal loads.

**Subject Outcome 3.2: Explain the operations and risks associated with transporting abnormal loads**

**Learning Outcomes**

The student should be able to:

- Describe the operations involved when transporting abnormal loads
  
  Range: Loading, monitoring, off-loading, securing permits, and conveyance abnormal loads to the recipient including escort services

- Identify and discuss, with examples, the risks associated with the transportation of abnormal loads.

- Describe the measures taken to minimise the risks associated with the transportation of abnormal loads

**Subject Outcome 3.3: Investigate the handling and loading of abnormal loads for transportation**

**Learning Outcomes**

The student should be able to:

- Describe the handling of abnormal loads.
  
  Range: Accept and store abnormal loads, inspect and approve abnormal loads, loading and securing abnormal loads for transportation.

**TOPIC 4: TRANSPORTING HAZARDOUS GOODS**

**Subject Outcome 4.1: Examine the risks associated with the transportation of dangerous goods**

**Learning Outcomes**

The student should be able to:

- Tabulate hazardous substances and the risks associated with the transportation of dangerous goods and analyse examples of incidents involving hazardous materials.

- Describe the measures taken to minimise the risks associated with transportation of dangerous goods.

- Describe the criteria and operations for disposal of hazardous materials.

**Subject Outcome 4.2: Investigate the legislative framework for handling and transporting dangerous goods**

**Learning Outcomes**

The student should be able to:

- Define and explain ‘dangerous goods’ in transportation and provide examples.

- Explain the aim, purpose and requirements of the sections in the National Road Safety Act dealing with the safety of goods classified as ‘dangerous goods’.
Subject Outcome 4.3: Investigate the handling and loading of dangerous goods for transportation

Learning Outcomes

The student should be able to:

- Describe the operations involved when handling and loading dangerous goods.
  
  Range: Compatibility of substances, identification, classification, packing, marking and labelling of dangerous goods, accepting, storing and segregation, inspecting and approving dangerous, hazardous and harmful goods, commodities and cargoes for transportation

- Research and describe operations for transporting dangerous goods by road, rail, air and sea/water.
  
  Range: Loading, cleaning up spills, monitoring compliance, off-loading, securing and delivery of dangerous goods to the recipient

- Research and describe the conveyance of dangerous goods.

8. RESOURCE NEEDS FOR THE TEACHING OF TRANSPORT OPERATIONS – LEVEL 4

8.1 Physical resources

- Internet or relevant research material.
- Stationery, for example, ruler, eraser, pens (blue; black; other colours if required)
- Computers and data saving devices for research and saving purposes
- Computer software programme which has the capability of performing online computerised reservations
- Ticket sales and verification equipment and stationery
- Software systems/programmes applicable to the passenger transport environment
- Safe custody cabins

8.2 Human resources

The lecturer should ideally:

- Be a good communicator with a thorough understanding of transport and economics.
- Have a Bachelors degree in transport. Practical experience in the transport industry will be a distinct advantage.
- Be competent in or have at least three years experience in the area in which he/she will be facilitating and assessing learning.
8.3 Other resources

- Exposure to the transport industry and infrastructure through excursions will add considerable value to the learning of this subject.