



higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATES (VOCATIONAL)

SUBJECT GUIDELINES

TRANSPORT ECONOMICS

LEVEL 4

IMPLEMENTATION: JANUARY 2014

INTRODUCTION

A. What is the subject *Transport Economics Level 4* about?

In this subject the student will be introduced to concepts of scarcity, choice and costs from a transport demand and supply perspective. The principles learnt will equip the student to calculate the cost of producing transport taking into account the various cost elements as well as the most appropriate mode/s of transport given the cost implications. An integrated transport network is described and the relation between traffic management and pricing of transport is explored.

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

The subject is important as it provides the student with an:

- appreciation of the various cost elements within transport and the cost of producing transport services
- awareness of the relationship between transport pricing and transport management
- appreciation of the relationship between the demand and the supply of transport services
- awareness of the effects of elasticity on the price of transport services
- awareness that the transport market's demands influences the supply and demand of various modes of transports
- appreciation of the transport markets demands on the supply and demand of intra and inter modal transport selections
- appreciation of the cost of transport per mode of transport

C. The link between Transport Economics and 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.
 - Students will have acquired the generic ability to identify and solve problems by using critical and creative thinking when investigating and examining the effects on the transport industry where the demand in the transport market influences the different modes of transport and as when recognising the various costs elements and the price of producing transport services
- Organise and manage themselves and their activities responsively and effectively.
 - Students will have acquired the generic ability to organise and manage themselves when conducting a field trip study the influences of the supply and demand for transport modes by the transport market on the transport industry
- Collect, analyse, organise and critically evaluate information.

- Students will have acquired the generic ability to collect, analyse, organise and critically evaluate information when conducting a field trip study the influences of the supply and demand for transport modes by the transport market on the transport industry
- 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 to:
 - evaluate the different demands for transport, the supply of transport services within those areas, estimated costs of producing such services by graphically depicting those cost elements as well as the price of transport services within the evaluated areas
 - determine the various modes of transport produced in various geographical locations and to calculate the cost of producing transport within those areas
 - select the most appropriate mode to meet the transport market need and calculate the most effective selection by doing a comparative analysis

D. Factors that contribute to achieving Learning Outcomes

In general, the student should have an interest in the transport industry. This will facilitate ease of learning within the Transport Economics 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 Economics NQF Level 4

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LEVEL 3

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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 OUTCOMES

- The transport service market and economy is described and various cost elements within the transport industry and the available resources from which to access such costs are explained.
- The costs of providing different types of transport services based on the mode selected are explained and calculated.
- The relation between traffic management and the pricing of transport is explored.
- Intermodalism is examined in the context of the demand for transport.

SAQA QUALIFICATION 50441

EXIT LEVEL OUTCOME 1

- Investigate the economic principles and factors impacting on the transport service market.

ASSOCIATED ASSESSMENT CRITERIA

- Key concepts of the transport service market are defined and explained
- Market demand and supply of transport services and its interaction is described.

EXIT LEVEL OUTCOME 2

- Examine cost elements and determination of rates in transport service delivery.

ASSOCIATED ASSESSMENT CRITERIA

- Different cost items, models and principles and its impact on pricing of transport services are described.
- Different transportation rates are listed and the factors, structures and entities influencing the determination of rates across various modes of transport are explained.

EXIT LEVEL OUTCOME 3

- Describe the supply and demand of transport and its effects on the costs and price of transport per mode.

ASSOCIATED ASSESSMENT CRITERIA

- The effect on the transport industry where the demand in the transport market influences the different modes of transport is described.
- Elasticity as a concept affecting the supply and demand of transport is explained.
- The supply of transport modes in the transport industry based on the demands of the transport market is described.

EXIT LEVEL OUTCOME 4

- Determine the costs of producing different types of transport services per mode of transport.

ASSOCIATED ASSESSMENT CRITERIA

- The cost of producing transport services per mode is calculated.
- A comparative analysis of the cost of transport across the modes is completed.

EXIT LEVEL OUTCOME 5

- Describe the relation between transport management and transport pricing.

ASSOCIATED ASSESSMENT CRITERIA

- The relation between transport management and pricing is explained with industry examples.

EXIT LEVEL OUTCOME 6

- Examine intermodalism in the context of the demand for transport.

ASSOCIATED ASSESSMENT CRITERIA

- An integrated transport network is described and intra and intermodal transport is described.
- The intermodal decision making process is explained with reference to central scheduling.

3 ASSESSMENT REQUIREMENTS

3.1 Internal assessment (50 percent)

3.1.1 Theoretical component

The theoretical component will form 40-60 percent of the internal assessment.

Internal assessment of the theoretical component of Transport Economics NQF Level 4 will take the form of observation, class questions, group work (informal group competitions with rewards), group and individual discussions with students, class tests, topic tests, semester tests, internal examinations. Daily observation can be done of previous day's lesson by making use of class questions, group or individual discussions and class tests

Assignments, case studies and tests can be done at the end of a topic. Tests and internal examinations must form part of internal assessment.

3.1.2 Practical component

The practical component will form 40-60 percent of the internal assessment.

Practical components include applications. All practical components must be indicated in a Portfolio of Evidence (PoE).

Internal assessment of the practical component of Transport Economics NQF Level 4 will take the form of assignments, practical exercises, case studies, practical examination in a simulated business environment.

Students can complete practical exercises on a daily basis and be assessed on a daily basis. Assignments, research and case studies can be done at the end of a topic. A practical examination can form part of the internal practical assessment.

- **Some examples of practical assessments include, but are not limited to:**

- A. Presentations (lectures, demonstrations, group discussions and activities, practical work, observation, role-play, independent activity, synthesis and evaluation)
- B. Exhibitions by students
- C. Visits undertaken by students based on a structured assignment task
- D. Research
- E. Task performance in a "Structured Environment"

- **Definition of the term "Structured Environment"**

Structured environment for the purposes of assessment refers to an actual or simulated workplace, or workshop environment. A practicum room would be advisable on each campus for students to do practical assessments.

- **Evidence in practical assessments**

All evidence pertaining to evaluation of practical work must be reflected in the students' Portfolio of Evidence (PoE). The tools and instruments used to conduct these assessments must be clear from the evidence contained in the Portfolio of Evidence (PoE).

3.1.3 Processing of internal assessment mark for the year

A year mark out of 100 is calculated by adding the marks of the theoretical component (0 percent) and the practical component (100 percent) of the internal continuous assessment (ICASS).

3.1.4 Moderation of internal assessment mark

Internal assessment is subjected to internal and external moderation procedures as set out in the relevant internal assessment guidelines provided by the Department of Higher Education and Training.

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 will also be assessed.

External assessment details and procedures are set out in the *Assessment Guidelines: Transport Economics: Level 4*

4 WEIGHTED VALUES OF TOPICS

TOPICS	WEIGHTED VALUE
1. The Transport Service Market and Economy	35
2. Costing the Modes of Transport	35
3. Transport Management in an Intermodal Context	30
TOTAL	100

5 CALCULATION OF FINAL MARK

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

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 in ICASS and fifty percent (50) in the examination.

7 SUBJECT AND LEARNING OUTCOMES

On completion of Transport Economics Level 4, the student should have covered the following topics:

Topic1: The Transport Service Market and Economy

Topic 2: Costing the Modes of Transport

Topic 3: Transport Management in an Intermodal Context

TOPIC 1: THE TRANSPORT SERVICE MARKET AND ECONOMY

Subject Outcome 1.1: Investigate the economic principles and factors that impact on the transport service market

Learning Outcomes

The student should be able to:

- Define and explain with industry examples the following key concepts:
Range: Transport market, demand and supply, elasticity principle, demand elasticity, pricing, rates.
- Explain demand and supply in a transport context with reference to their interrelation.
- Indicate how need or demand for transport is determined and influences supply of transport services.
- Describe the factors that influence supply of transport services (e.g. complicated networks)
- Explain the effect of elasticity on provision of transport services with reference to individuals and service providers.

Subject Outcome 1.2: Examine cost elements in the transport industry

Learning Outcomes

The student should be able to:

- Explain different costing models and principles in terms of examples in the transport industry.
- Differentiate between direct and indirect costs in the transport industry.
- Explain the impact of market demand on the cost and pricing of transport services.
- Illustrate graphically the pricing and costing concepts in transport.

Subject Outcome 1.3: Investigate costs of providing transport services

Learning Outcomes

The student should be able to:

- Describe with examples specific types of transport services that can be delivered.
- Tabulate and explain cost elements and variables when providing these transport services.

Subject Outcome 1.4: Explain how rates are determined in transport delivery

Learning Outcomes

The student should be able to:

- List and describe different transportation rates.

Range: Class rates, commodity rates, exception rates, special or discounted rates.

- Demonstrate with a model or diagram and explain how transportation rates are determined.
- Describe with reference to examples the influence of the determined rates on the broader economy and its benefits for consumers of transport services.
- Explain the effect of competition on rates charged for transport delivery.
- Compare the determination of rates across the various modes of transport and record the similarities and differences.
- Describe the influence/impact of different structures and entities operating within each mode of transport on the determination of rates.

TOPIC 2: COSTING THE MODES OF TRANSPORT

Subject Outcome 2.1: Explore the economic effects of demand and supply of transport services within the different transport modes

Learning Outcomes

The student should be able to:

- Explain with examples the effects of demand in the market on service provision for the various modes of transport
- Describe and compare supply of services within the different modes of transport.
- Explain the influence of the modal characteristics when deciding on supply of modes.

Subject Outcome 2.2: Explain elasticity as a concept affecting the supply and demand of transport services

Learning Outcomes

The student should be able to:

- Discuss pricing elasticity and provide examples.
- Explain the manner in which elasticity affects the supply and demand of transport services.
- Explain the impact of elasticity on costing and pricing of transport services.

Subject Outcome 2.3: Calculate transport costs based on the mode selected

Learning Outcomes

The student should be able to:

- Discuss and compare various cost elements per transport mode

- Calculate, using examples, the cost for different modes of transport
- Compare cost differences when using a specific mode of transport and graphically represent cost differences.
- Compare income statements in respect of air, road, and rail and water/sea transportation and provide reasons for the differences.

TOPIC 3: TRANSPORT MANAGEMENT IN AN INTERMODAL CONTEXT

Subject Outcome 3.1: Explore the relation between traffic management and pricing of transport

Learning Outcomes

The student should be able to:

- Define traffic management and provide examples.
- Explain the relation between transport management and pricing within the context of industry examples.
- Identify instances in which transport management influences transport pricing.

Subject Outcome 3.2: Examine intermodalism in the context of the demand for transport

Learning Outcomes

The student should be able to:

- Define intermodalism as a transport concept
- Describe what is an integrated transport network and differentiate between intra and intermodal transport
- Explain the objectives and advantages of intermodal transport and relate the instances in which it is applied
- Describe the instances in which intra and intermodal transportation is used with success within the industry
- Identify all parties involved in the intermodal modes and state the beneficiaries of intermodalism

Subject Outcome 3.3: Select various modes of transport in an intermodal context

Learning Outcomes

The student should be able to:

- Explain the intermodal decision making process with reference to central scheduling.
- Provide examples where intermodalism can be used as a cost effective transport solution.

8. RESOURCE NEEDS FOR THE TEACHING OF TRANSPORT ECONOMICS LEVEL 4

8.1 Physical resources

- Internet and relevant research material.
- Daily and weekly exposure to economic news on television, the radio, in news papers and business magazines.
- Stationery, for example, ruler, eraser, pens (blue; black; other colours if required)
- Computers and data saving devices.
- Bulletin boards/ notice boards to display current economic news and information.

8.2 Human resources

The lecturer should ideally:

- Be a good communicator with a through 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.