NATIONAL CERTIFICATES (VOCATIONAL)

SUBJECT GUIDELINES

CONSTRUCTION CARPENTRY AND ROOF WORK
NQF LEVEL 2

September 2007
INTRODUCTION

A. What is Construction Carpentry and Roof Work?

Construction Carpentry and Roof Work educates students about the design and construction of timber products using various tools, equipment and machines suitable for such activities. It trains students in the operation of various types of machinery and hand tools to produce furniture and other wooden products. The subject also informs students about the health and safety regulations for various machines.

B. Why is Construction Carpentry and Roof Work important in the Building and Civil Construction programme?

Most of building and civil construction structures require many different kinds of wood components for different reasons such as decoration, furniture, roof structures, etc. Therefore, Construction Carpentry and Roof Work is ideal to equip students with woodworking skills.

C. The link between Construction Carpentry and Roof Work Learning Outcomes and the Critical and Developmental Outcomes

Students will be able to identify different types of tools, equipment and machines to perform various construction carpentry activities. They will work effectively with the team to interpret health and safety programmes, interpret drawings and sketches and use technology appropriately.

D. Factors that contribute to achieving the Construction Carpentry and Roof Work Learning Outcomes

- Thorough preparation for teaching and learning activities
- An environment conducive to teaching and learning through effective learner support, motivation, commitment and a positive attitude
- An interest in Construction Carpentry and Roof Work
CONSTRUCTION CARPENTRY AND ROOF WORK – LEVEL 2

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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 student will be able to:

• Explain equipment, tools and machinery used in Construction Carpentry and Roof Work.
• Identify and use machines, tools, methods and processes to produce different Construction Carpentry Roof Work products.
• Explain and apply relevant health and safety procedures and practices.

3 ASSESSMENT REQUIREMENTS

3.1 Internal assessment (50 percent)

Internal assessment refers to continuous assessment which is college based. The achievement of Learning Outcomes counts towards the achievement of a qualification. All internal assessments must be finalised by an assessor who has been declared competent by an accredited service provider.

3.1.1 Theoretical component

The theoretical component forms 60 percent of the internal assessment mark.

Internal assessment of the theoretical component in Construction Carpentry and Roof Work Level 2 takes the form of observation, class questions, group work, informal group competitions with rewards, individual discussions with students, class, topic and semester tests and internal examinations. Lecturers can observe students when marking exercises from the previous day and asking class questions.

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

3.1.2 Practical component

The practical component forms 40 percent of the internal assessment mark.

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

Internal assessment of the practical component in Construction Carpentry and Roof Work Level 2 takes the form of assignments, practical exercises, case studies and practical examinations in a simulated building environment.

Students may complete practical exercises daily. Assignments and case studies can be completed at the end of a topic. Practical examinations can form part of 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”
For the purposes of assessment, “Structured Environment” refers to a simulated workplace or workshop environment. Activities in the simulated workplace or environment must be documented in a logbook with a clear listing of the competencies to be assessed. The following information must be contained in the logbook:

- Nature of department or environment in which practical component was achieved
- Learning Outcomes
- Activities in the environment with which to achieve the Learning Outcomes
- Time spent on activities
- Signature of lecturer or supervisor and student

For the logbook to be regarded as valid evidence, it must be signed by an officially assigned supervisor.

• 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 constructed and 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 (60 percent) and the practical component (40 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 National Examinations Policy for FET College Programmes.

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: Construction Carpentry and Roof Work (Level 2).

4 WEIGHTED VALUES OF TOPICS

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<tr>
<th>TOPIC</th>
<th>WEIGHTED VALUE</th>
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<td>25</td>
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<td>TOTAL</td>
<td>100</td>
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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, moderation and verification purposes.
6 PASS REQUIREMENTS
The student must obtain at least fifty (50) percent in ICASS and fifty (50) percent in the examination.

7 SUBJECT AND LEARNING OUTCOMES
On the completion of Construction Carpentry and Roof Work Level 2, the student should have covered the following topics:

Topic 1: Set Out and Prepare Construction Carpentry Work Area
Topic 2: Set Out and Construct a Gable Roof Truss
Topic 3: Set Out and Erect Gable Roof Trusses
Topic 4: Clad Roof Structures
Topic 5: Install Finishing Components
Topic 6: Erect Ceiling and Timber Frame Partitions

7.1 Topic 1: Set Out and Prepare Construction Carpentry Work Area

Subject Outcome: Set out and prepare carpentry work area.

Learning Outcomes:
The student should be able to:
- Identify and prepare the building site work area.
- Select and organise tools, equipment and material according to specifications.
- Position and set out building activity according to work drawings.

7.2 Topic 2: Set Out and Construct a Gable Roof Truss

Subject Outcome: Set out and construct a gable roof truss.

Learning Outcomes:
The student should be able to:
- Determine the roof pitch and the angle (in degrees) of the truss.
- Determine the roof overhang and cut plumb the ends of the roof rafters.
- Set out the trusses according to the drawing.
- Secure all the joints of the trusses.
- Construct the gable roof truss according to the specifications.

7.3 Topic 3: Set Out and Erect Gable Roof Trusses

Subject Outcome: Explain the process of erecting a truss and erect the trusses according to the drawings.

Learning Outcomes:
The student should be able to:
- Explain the purpose of wall plates.
- Fit the wall plate according to the specifications.
- Erect gable roof trusses.
- Space all trusses equally as specified.
- Straight, plumb, align and level all the trusses.
- Securely tie trusses to the wall plate using roof ties.
- Install bracing to the equally spaced trusses according to the specifications.
- Adhere to health and safety requirements.

7.4 Topic 4: Clad Roof Structures

Subject Outcome: Clad roof structure according to building drawing.
Learning Outcomes:
The student should be able to:
• Clad a roof structure with concrete tiles.
• Clad a roof structure with corrugated, galvanised sheeting.

7.5 Topic 5: Install Finishing Components

Subject Outcome 1: Select, use and maintain tools, equipment and material for finishing components.

Learning Outcomes:
The student should be able to:
• Select tools, equipment and material to use for finishing.
• Use tools, equipment and materials for finishing.

Subject Outcome 2: Install a range of finishing components.
Range: Doors and locks, skirting and architraves

Learning Outcomes:
The student should be able to:
• Fit and hang a single door to a steel doorframe.
• Cut and fit architraves and skirting.
• Adhere to health and safety requirements.

7.6 Topic 6: Erect Ceiling and Timber Frame Partitions

Subject Outcome 1: Prepare work area.

Learning Outcome:
The student should be able to:
• Select tools, equipment and materials to use for ceilings and timber frames.

Subject Outcome 2: Erect ceiling.

Learning Outcomes:
The student should be able to:
• Erect, use and dismantle scaffolding.
• Correctly transfer ceiling levels from drawings.
• Fit ceiling joints according to specifications.
• Secure and space branderings.
• Fix boards at the right angles to the brandering.
• Join ceiling boards with cover strips and square, mire and fit finishing components.
• Fabricate and install the trap door according to the specifications on the drawing.

Subject Outcome 3: Prepare and erect a timber-framed partition.

Learning Outcomes:
The student should be able to:
• Compile a cutting list according to the plan.
• Lay walls plumb in line and level.
• Fix partition to the walls with plastic plugs and screws.
• Check that the door opening is square.
• Fit the architrave to the door opening.
• Hang the panel door flush and fit a two-lever mortise lock.
8 RESOURCE NEEDS FOR TEACHING CONSTRUCTION CARPENTRY AND ROOF WORK – LEVEL 2

8.1 Physical resources
- Construction carpentry workshop
- Woodworking tools and machines
- Teaching aids and pre-designed models and teaching and learning materials or resources
- Work tables, chairs and chalkboards
- Overhead projector

8.2 Human resources
The lecturer should have an acceptable NQF level qualification in Building and Civil Construction and should preferably be a registered assessor. The lecturer should be committed to continually improving and expanding his or her knowledge and skills.

8.3 Other resources
- Budget according to Construction Carpentry and Roof Work requirements