



**Tertiary and Vocational Education Commission**

**National Competency Standards and Curriculum  
For  
Four wheel Tractor Operator  
NVQ Level 3**

### Course synopsis

Four wheel tractor operators are responsible for safe operation and routine maintenance of tractor. This course covers the competencies required to operate the four wheel tractor operator for day's work by following pre-operational test, safety procedure, identifying field conditions and attending routine, periodical and seasonal maintenance

Course Title	Course Duration
<b>Four Wheel Tractor Operator – Level 3</b>	<b>2 months</b>
<p><b>Job outlook, objectives of the course and career paths available following completion of the course</b></p> <p>Farmers grow mainly rice, maize and sugar crops in Sri Lanka. During a season, there are more than 750000 ha of agriculture land to be prepared for cultivation. In addition, farmers grow fruits vegetables and other field crops such as green gram soya bean. All farms need special machines and farm equipment operators to control them. Out of them most needed machine today is the tractor and there are over 250,000 four wheel tractors available for agriculture purposes in addition to the 150,000 two wheel Pedestrian or riding tractors. The balance tractors are used for hauling and in construction sector. Every year additional 3000 to 4000, four-wheel tractors and over 6000 two wheel tractors are registered. All these tractors need skilled operators to obtain maximum efficiency in the field for farmers to be competitive. Therefore, there is a big demand for these skill tractor operators. Many farm machines use implements such as rotavator, disc ploughs, tillers trailers planters, they are pulled or powered by tractors. These tractors incorrectly operated can drain out the soil fertility and support weed growth. Both these conditions produce counter effects of land preparation. Today there many unskilled workers who work in the land preparations.</p> <p>A Tractor operator can earn over 4000 rupees per day during the season and 2000 during the off-season. Their annual income is over 600,000 per year.</p>	

**Competence-based modules to be covered:****1. Carry out pre operational checks and adjustments**

This unit covers the competencies required to check engine and other components of tractor before start day's work as for manufacturer recommendations.

**2. Attend to safety procedures**

This module covers the competencies required to follow safety procedures when handling four wheel tractors to avoid accidents.

**3. Operate Tractor**

This module covers the competencies required to operate the four wheel tractor with maximum efficiency and optimum fuel consumption during operations

**4. Identify field conditions**

This unit covers the competencies required to assess field before carry out tractor operations to ensure the safety.

**5. Attend to routine, periodical and seasonal maintenance**

This unit covers the competencies required to perform preventive maintenance to minimize break downs and to achieve maximum machine efficiency.

**6. Carrier skills 1**

All recent studies make it clear that one of the greatest problems noted with regard to the employability of students in the TVET sector is the absence of soft skills, in particular communicative competence in English. Employers have indicated that they would appreciate better English in their staff and the ability to communicate with more confidence. This module is designed to fill that gap and is required for all NVQ Level 3 courses.

Module Title	Course Duration
<b>1. Carry out pre operational checks and adjustments</b>	
<p><b>Objectives of the module;</b> This unit covers the competencies required to check engine and other components of tractor before start day's work as for manufacturer recommendations.</p>	
<p><b>Competencies to be covered:</b></p> <ol style="list-style-type: none"> <li>1. Walk around inspection</li> <li>2. Check and refuel the machine</li> <li>3. Check tires and tire pressure</li> <li>4. Park the tractor in leveled and safe position</li> <li>5. Check air cleaner</li> <li>6. Check engine oil level</li> <li>7. Check gear oil level</li> <li>8. Check hydraulic oil level</li> <li>9. Check power steering oil</li> <li>10. Check coolant level and radiator cap valve</li> <li>11. Check the radiator fins for blockages</li> <li>12. Check clutch paddle</li> <li>13. Check the functions of lights</li> <li>14. Check the function of indicator lamps and gauges</li> <li>15. Adjust seat visibility, height and legs and mirrors</li> <li>16. Check the terminals and electrolyte level of the battery</li> <li>17. Check belt tension</li> <li>18. Check brake paddle</li> <li>19. Check the functions of lights</li> <li>20. Check the function of indicator lamps</li> </ol>	
Recommended teaching methods :	Role plays, simulation, real work situation, demonstration, guided practice

Module Title	Course Duration
<b>2. Attend to safety procedures</b>	hrs
<p><b>Objectives of the module;</b> This module covers the competencies required to follow safety procedures when handling four wheel tractors to avoid accidents.</p>	
<p><b>Competencies to be covered:</b></p> <ol style="list-style-type: none"> <li>1. Follow safety signs and symbols (manual and tractor)</li> <li>2. Use Personal Protective Equipment (PPE)</li> <li>3. Follow safety procedures when inspecting and using implements</li> <li>4. Follow safety procedures when using attachments</li> <li>5. Follow tractor parking procedures</li> </ol>	
Recommended teaching methods :	Role plays, simulation, real work situation, demonstration, guided practice

Module Title	Course Duration
<b>3. Operate Tractor</b>	
<p><b>Objectives of the module;</b> This module covers the competencies required to operate the four wheel tractor with maximum efficiency and optimum fuel consumption during operations</p>	
<p><b>Competencies to be covered:</b></p> <ol style="list-style-type: none"> <li>1. Operate tractor without implements</li> <li>2. Fix the trailer</li> <li>3. Fix the rotavator</li> <li>4. Fix the disk plough</li> <li>5. Fix the tine tiller</li> <li>6. Fix the thresher</li> <li>7. Operate tractor with trailer</li> <li>8. Operate tractor with rotavator</li> <li>9. Operate tractor with disk plough</li> <li>10. Operate tractor with tine tiller</li> <li>11. Operate tractor with thresher</li> <li>12. Perform puddling operations</li> <li>13. Fix the slasher</li> <li>14. Operate tractor with slasher</li> <li>15. Handle unexpected situations(air get into the diesel line)</li> </ol>	
Recommended teaching methods :	Role plays, simulation, real work situation, demonstration, guided practice

Module Title	Course Duration
<b>4. Identify field conditions</b>	
<p><b>Objectives of the module;</b> This unit covers the competencies required to assess field before carry out tractor operations to ensure the safety.</p>	
<p><b>Competencies to be covered:</b></p> <ol style="list-style-type: none"> <li>1. Carry out visual inspection of the field</li> <li>2. Collect field information from relevant sources</li> <li>3. Carry out basic physical inspection</li> <li>4. Check the safety requirement of the field</li> </ol>	
Recommended teaching methods :	Role plays, simulation, real work situation, demonstration, guided practice

Module Title	Course Duration
<b>5. Attend to routine, periodical and seasonal maintenance</b>	
<p><b>Objectives of the module;</b> This unit covers the competencies required to perform preventive maintenance to minimize break downs and to achieve maximum machine efficiency</p>	
<p><b>Competencies to be covered:</b></p> <ol style="list-style-type: none"> <li>1. Apply grease to the greasing point</li> <li>2. Replace belts / chains and adjust tension</li> <li>3. Adjust position of the implements</li> <li>4. Top up engine oil, gear oil, radiator liquid, hydraulic oil, power steering oil, axial oil, battery water</li> <li>5. Clean A/C condenser fins</li> <li>6. Adjust clutch and brake paddle</li> <li>7. Replace bulbs and fuses</li> <li>8. Clean water separator</li> <li>9. Clean / change air cleaners</li> <li>10. Change oil and filters including diesel filters</li> <li>11. Maintain implements</li> </ol>	
Recommended teaching methods :	Simulation, real work situation, demonstration, guided practice

Module Title	Course Duration
<b>Career Skills 1</b>	At least 60 hours
<p>Objectives of the course</p> <p>All recent studies make it clear that one of the greatest problems noted with regard to the employability of students in the TVET sector is the absence of soft skills, in particular communicative competence in English. Employers have indicated that they would appreciate better English in their staff and the ability to communicate with more confidence. This module is designed to fill that gap and is required for all NVQ Level 3 courses.</p>	
<p><b>Competencies</b></p> <p><b>a Understand and use simple expressions to communication</b>  This subject provides the necessary communication skills so that students can introduce themselves and interact with others, and can respond to simple questions and follow simple instructions, describe people, places, and tools.</p> <p><b>b Read and write effectively</b>  This subject provides the necessary skills to find and understand the information given in a text, to understand notices, instructions and information, to take down short messages and write simple descriptions.</p> <p><b>c. Use English correctly</b>  This subject is not taught separately but is included in the development of the productive and receptive skills above, since awareness of the structure of the language is necessary for these The development of appropriate vocabulary is also targeted to deploy the above skills</p> <p><b>d. Develop the capacity to think and plan productively y</b>  This subject develops cognitive abilities and skills with regard to effective work, with strengthening of thinking skills, recognition of systems, making deductions etc</p> <p><b>e. Develop effective working capacity</b>  This subject develops the capacity to work effectively individually and in collaboration with others through building the sense of individual responsibility, and accountability within a working group</p>	