

# Sample Scheme of Work

**Course / Programme:** Level 2 Motor Vehicle

**Unit/Module/Course:** Level 2 IMI Awards Motor Vehicle Repair and Maintenance

**Reference Codes:** [Unit accreditation number R/601/3719](#)  
[City & Guilds unit 4290-153](#)  
[Relationship to NOS: LV04](#)  
 Level 2

**Topic:** **Braking System**

## Health and Safety

Activities that involve large or potentially hazardous equipment should be documented and measured against the standard college risk assessment policies. Please ensure that you date this section to show that it is current.

## How is Equality and Diversity Promoted in the Learning?

- Language used in class that is not specific gender orientated
- All learners to have access to books and IT equipment
- Different genders and races used in lesson examples and pictures

## How will Students Develop Personal, Social, Industry and Employability skills?

- Make significant contributions to discussions to help move forward
- Practice writing skills when taking notes
- Hand dexterity when using tools
- Units of measurement
- Addition and subtraction of measurements
- Self-study reading skills

Week	Guided Learning Hours per SESSION	Objectives	Tutor Activity and Resources	Student Activity and Resources	Assessment	How will students develop their English and maths skills
1	6	<p>What is the objective of the session? What do you want <b>your students</b> to be able to learn by the end of the lesson? This is what you intend to use to check learning against at the end of the lesson.</p> <ul style="list-style-type: none"> <li>• Explain the construction and operation of braking systems and components</li> <li>• Include the construction and operation of: disc pads, calliper, brake disc, ventilated disc, disc pad retraction, parking brake system and electronic components, wear indicators and warning lamps. Kinetic and heat energy conversion.</li> </ul>	<p>List all the tasks and activities you will be doing to help them meet their outcomes, practice their skills be stretched and challenged and develop independent skills of learning.</p> <p><b>Resources:</b> List the resources you plan to use in this lesson.</p> <ul style="list-style-type: none"> <li>• Tutor led <a href="#">i-Ask: Braking System Operation</a></li> </ul>	<p>List all the tasks and activities your students will be doing to help them meet their outcomes, practice their skills be stretched and challenged and develop independent skills of learning.</p> <p><b>Resources:</b> List the resources you plan to use in this lesson.</p> <ul style="list-style-type: none"> <li>• Learners to investigate the braking system using <a href="#">i-Ask: 3D braking system and write down the purpose of each component</a></li> <li>• Pre lesson <a href="#">i-Ask: A Hazard and a Risk</a></li> <li>• Pre lesson <a href="#">i-Ask: Protective Equipment</a></li> </ul>	<p>How will you assess whether students have met the learning outcomes during and at the end of the lesson?</p> <ul style="list-style-type: none"> <li>• Correct identification of component names</li> <li>• Tutor led questioning</li> <li>• In class check <a href="#">i-Check: Braking System Components</a></li> <li>• In class check <a href="#">i-Check: Braking System Construction</a></li> <li>• Post lesson <a href="#">i-Test: Braking System Components</a></li> <li>• Post lesson <a href="#">i-Test: Braking System Units and Components</a></li> </ul>	<p>How will the lesson help to develop individual student's English and maths skills?</p> <ul style="list-style-type: none"> <li>• Students to be set <a href="#">i-Tests</a> and assessments to be complete in their own time This will be checked in the next lesson.</li> <li>• Developing their reading skills using text books and online resources and understand technical and complex words</li> </ul>
2	4:2	<ul style="list-style-type: none"> <li>• Understand the principles and components of an ABS system and electrical components</li> <li>• Understand the health and safety, PPE + VPE used when working with braking systems and brake fluid</li> </ul> <p><i>Mix of classroom and workshop teaching</i></p>	<ul style="list-style-type: none"> <li>• Tutor led <a href="#">i-Ask: Braking system units &amp; components</a></li> <li>• Use various components in class</li> <li>• Tutor led <a href="#">i-Ask: Braking System Construction</a></li> </ul>			

Week	Guided Learning Hours per SESSION	Objectives	Tutor Activity and Resources	Student Activity and Resources	Assessment	How will students develop their English and maths skills
			<p>Using additional material for braking systems for:</p> <ul style="list-style-type: none"> <li>• Brake pad construction and retraction in caliper</li> <li>• Pad wear indicators</li> <li>• Advantages between vented and solid discs</li> <li>• Difference between fixed caliper and sliding caliper</li> </ul>	<ul style="list-style-type: none"> <li>• Pre lesson i-Ask: Personal Protective Equipment</li> <li>• Pre lesson i-Ask: Vehicle Protective Equipment</li> <li>• Workshop session locating and investigating braking system components using <a href="#">handout 1</a></li> </ul>	<ul style="list-style-type: none"> <li>• In class check i-Check: Personal Protective Equipment</li> <li>• Post lesson i-Test: Personal Protective Equipment</li> </ul>	
3	10	<ul style="list-style-type: none"> <li>• Understand how and be able to check, test and remove braking systems using workshop vehicles to remove and replace brake discs and pads, inspect and measure Investigate pulling to one side, poor braking efficiency and lack of servo assistance</li> <li>• Know the different tools, equipment and consumables to be used when working on braking systems, such as: Hand tools, jacks, ramps, greases, brake cleaner, torque wrench.</li> </ul>	<ul style="list-style-type: none"> <li>• Use a selection of braking system components in class</li> <li>• Use a selection of braking system test equipment in class</li> <li>• Tutor led <a href="#">i-Ask: Tools for Braking System</a></li> <li>• Tutor led <a href="#">i-Ask: Equipment for Braking System</a></li> <li>• Tutor led <a href="#">i-Ask: Consumables used when working on the Braking System</a></li> </ul>	<ul style="list-style-type: none"> <li>• Learner led pre lesson <a href="#">i-Check: Tools used when working on the Braking System</a></li> <li>• Learner led pre lesson <a href="#">i-Check: Equipment for Braking System</a></li> <li>• Learner led pre lesson</li> <li>• Learner led pre lesson <a href="#">i-Practice: Brake Pads and Disc Removal</a></li> <li>• Learner led pre lesson <a href="#">i-Practice: Brake Pads and Disc Replacement</a></li> <li>• Workshop sessions removing discs and pads on vehicles or rigs and recording findings using <a href="#">handout 2</a></li> </ul>	<ul style="list-style-type: none"> <li>• Post lesson <a href="#">i-Test: Tools, Equipment and Consumables used when working on the Braking System</a></li> <li>• Probing question and answer session</li> <li>• Post lesson <a href="#">i-Practice: Brake Pads and Disc Removal (Assessment)</a></li> <li>• Post lesson <a href="#">i-Practice: Brake Pads and Disc Replacement (Assessment)</a></li> <li>• Competency of workshop task</li> </ul>	<ul style="list-style-type: none"> <li>• Students to be set <a href="#">i-Tests</a> and assessments to be complete in their own time. This will be checked in the next lesson.</li> <li>• Developing their reading skills using text books and online resources and understand technical and complex words</li> </ul>
4	Tutor : Student ratio (GLH)	<ul style="list-style-type: none"> <li>• Understand the operation and construction of the hydraulic system including: Master cylinders, wheel cylinders, caliper pistons, brake pipes, brake servo, load proportioning valves and common faults and symptoms</li> </ul>	<p>Using additional material for braking systems for:</p> <ul style="list-style-type: none"> <li>• Different hydraulic pipe layouts</li> <li>• Tandem master cylinder duties</li> <li>• Brake pipes, rigid and flexible</li> <li>• Common faults such as brake judder, scored surfaces, brake fade, drag and grab</li> </ul>			
5	7:3	<p>Mix of classroom and workshop teaching</p>				

Week	Guided Learning Hours per SESSION	Objectives	Tutor Activity and Resources	Student Activity and Resources	Assessment	How will students develop their English and maths skills
6	10  Tutor : Student ratio (GLH)	<ul style="list-style-type: none"> <li>Understand the operation and construction of drum brakes. To include brake drums and shoes, leading and trailing shoes, self servo action, automatic adjusters, backing plates and the parking brake system.</li> <li>Understand how to remove and replace brake drums and shoes, inspect the components, the measurement and adjustment of the drum and shoes and checking for leaks from the wheel cylinder.</li> </ul> <p>Mix of classroom and workshop teaching</p>	<p>Using additional material for braking systems for:</p> <ul style="list-style-type: none"> <li>Drum brake components</li> <li>Parking brake construction and adjustment</li> <li>Measuring and recording measurements and inspection for components</li> </ul>	<ul style="list-style-type: none"> <li>Learner led Pre lesson recap <i>i-Ask: Braking System Construction</i></li> <li>Learner led Pre lesson <i>i-Practice: Brake Drum and Shoes Removal</i></li> <li>Learner led Pre lesson <i>i-Practice: Brake Drum and Shoes Replacement</i></li> <li>Workshop sessions removing and replacing brake drums and shoes following the correct procedures and recording findings using <i>handout 2</i></li> </ul>	<ul style="list-style-type: none"> <li>Post lesson <i>i-Practice: Brake Drum and Shoes Removal (Assessment)</i></li> <li>Post lesson <i>i-Practice: Brake Drum and Shoes Replacement (Assessment)</i></li> <li>Measuring competency of task completion in the workshop</li> </ul>	<ul style="list-style-type: none"> <li>Students to be set <i>i-Tests</i> and assessments to be complete in their own time. This will be checked in the next lesson.</li> <li>Developing their reading skills using text books and online resources and understand technical and complex words</li> </ul>
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9	6  Tutor : Student ratio (GLH)	<ul style="list-style-type: none"> <li>Understand how to prepare and bleed a braking system</li> <li>Understand the requirements of brake fluid, including: properties, boiling point, damage to paint surfaces, hygroscopic action, manufacturer's change periods, fluid classification and rating</li> <li>Know why and how brake fluid affects braking efficiency, brake fade, brake balance</li> </ul> <p>Mix of classroom and workshop teaching</p>	<p>Using additional material for braking systems for:</p> <ul style="list-style-type: none"> <li>Calculating braking efficiency</li> <li>Calculating braking pressure and force</li> <li>DOT ratings of brake fluids</li> </ul>	<ul style="list-style-type: none"> <li>Learner led Pre lesson <i>i-Practice: Preparation for Bleeding Braking System</i></li> <li>Learner led Pre lesson <i>i-Practice: Bleeding Braking System</i></li> <li>Learner led Pre lesson <i>i-Practice: Bleeding Braking System, Final Procedures</i></li> <li>Workshop sessions practicing bleeding the braking system</li> </ul>	<ul style="list-style-type: none"> <li>Post lesson <i>i-Practice: Preparation for Bleeding Braking System (Assessment)</i></li> <li>Post lesson <i>i-Practice: Bleeding Braking System (Assessment)</i></li> <li>Post lesson <i>i-Practice: Bleeding Braking System, Final Procedures (Assessment)</i></li> <li>Workshop observation with probing questions and answers</li> </ul>	<ul style="list-style-type: none"> <li>Students to be set <i>i-Tests</i> and assessments to be complete in their own time. This will be checked in the next lesson.</li> <li>Developing their reading skills using text books and online resources and understand technical and complex words</li> </ul>
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