

Government of Pakistan

**National Vocational and Technical Training Commission**

**Prime Minister's Hunarmand Pakistan Program**

"Skills for All"



**Course Contents / Lesson Plan**

**Course Title:** Auto Mechanic

**Duration:** 6 Months

## Revised Edition

<b>Trainer Name</b>	
<b>Course Title</b>	<b>AUTO MECHANIC</b>
<b>Objectives and Expectations</b>	<p style="text-align: center;"><b>Employable skills and hands-on practice for Auto Mechanic</b></p> <p>This course is intended to provide sufficient theoretical knowledge and comprehensive skillset to build a great career in the field of Auto Mechanic in diagnosing, repairing and maintaining a variety of mechanical and electrical systems on City light and heavy gasoline and diesel power-driven vehicles and equipment; to perform preventive maintenance duties; and to perform a variety of technical tasks relative to assigned area of responsibility.</p> <p><b><u>Main Expectations:</u></b></p> <p>In short, the course under reference should be delivered by professional instructors in such a robust hands-on manner that the trainees are comfortably able to employ their skills for earning money (through wage/self-employment) at its conclusion.</p> <p>This course thus clearly goes beyond the domain of the traditional training practices in vogue and underscores an expectation that a market-centric approach will be adopted as the main driving force while delivering it. The instructors should therefore be experienced enough to be able to identify the training needs for the possible market roles available out there. Moreover, they should also know the strengths and weaknesses of each trainee to prepare them for such market roles during/after the training.</p> <ol style="list-style-type: none"> <li>i. Specially designed practical tasks to be performed by the trainees have been included in the Annexure-I to this document. The record of all tasks performed individually or in groups must be preserved by the management of the training Institute clearly labeling name, trade, session, etc so that these are ready to be physically inspected/verified through monitoring visits from time to time. The weekly distribution of tasks has also been indicated in the weekly lesson plan given in this document.</li> <li>ii. To materialize the main expectations, a special module on <b><u>Job Search &amp; Entrepreneurial Skills</u></b> has been included in the latter part of this course (5<sup>th</sup> &amp; 6<sup>th</sup> month) through which, the trainees will be made aware of the Job search techniques in the local as well as international job markets (Gulf countries). Awareness around the visa process and immigration laws of the most favored labor destination countries also form a part of this module. Moreover, the trainees would also be encouraged to venture into self-employment and exposed to the main requirements in this regard. It is also expected that a sense of civic duties/roles and responsibilities will also be inculcated in the trainees to make them responsible citizens of the country.</li> <li>iii. A module on <b>Work Place Ethics</b> has also been included to highlight the importance of good and positive behavior in the workplace in the line</li> </ol>

with the best practices elsewhere in the world. An outline of such qualities has been given in the Appendix to this document. Its importance should be conveyed in a format that is attractive and interesting for the trainees such as through PPT slides +short video documentaries. Needless to say that if the training provider puts his heart and soul into these otherwise non-technical components, the image of the Pakistani workforce would undergo a positive transformation in the local as well as international job markets.

To maintain interest and motivation of the trainees throughout the course, modern techniques such as:

- Motivational Lectures
- Success Stories
- Case Studies

These techniques would be employed as an additional training tool wherever possible (these are explained in the subsequent section on Training Methodology).

Lastly, evaluation of the competencies acquired by the trainees will be done objectively at various stages of the training and a proper record of the same will be maintained. Suffice to say that for such evaluations, practical tasks would be designed by the training providers to gauge the problem-solving abilities of the trainees.

#### **(i) Motivational Lectures**

The proposed methodology for the training under reference employs motivation as a tool. Hence besides the purely technical content, a trainer is required to include elements of motivation in his/her lecture. To inspire the trainees to utilize the training opportunity to the full and strive towards professional excellence. Motivational lectures may also include general topics such as the importance of moral values and civic role & responsibilities as a Pakistani. A motivational lecture should be delivered with enough zeal to produce a deep impact on the trainees. It may comprise of the following:

- Clear Purpose to convey the message to trainees effectively.
- Personal Story to quote as an example to follow.
- Trainees Fit so that the situation is actionable by trainees and not represent a just idealism.
- Ending Points to persuade the trainees on changing themselves.

A good motivational lecture should help drive creativity, curiosity, and spark the desire needed for trainees to want to learn more.

The impact of a successful motivational strategy is amongst others commonly visible in increased class participation ratios. It increases the trainees' willingness to be engaged on the practical tasks for a longer time without boredom and loss of interest because they can see in their mind's eye where their hard work would take them in short (1-3 years); medium (3 -10 years) and long term (more than 10 years).

As this tool is expected that the training providers would make arrangements for regular well planned motivational lectures as part of a coordinated strategy interspersed throughout the training period as suggested in the weekly lesson plans in this document.

Course-related motivational lectures online link is available in **Annexure-II**.

### **(ii) Success Stories**

Another effective way of motivating the trainees is using Success Stories. Its inclusion in the weekly lesson plan at regular intervals has been recommended till the end of the training.

A success story may be disseminated orally, through a presentation, or using a video/documentary of someone that has risen to fortune, acclaim, or brilliant achievement. A success story shows how a person achieved his goal through hard work, dedication, and devotion. An inspiring success story contains compelling and significant facts articulated clearly and easily comprehensible words. Moreover, it is helpful if it is assumed that the reader/listener knows nothing of what is being revealed. The optimum impact is created when the story is revealed in the form of:-

- Directly in person (At least 2-3 cases must be arranged by the training institute)
- Through an audio/ videotaped message (2-3 high-quality videos must be arranged by the training institute)

It is expected that the training provider would collect relevant high-quality success stories for inclusion in the training as suggested in the weekly lesson plan given in this document.

Suggestive structure and sequence of a sample success story and its various shapes can be seen in **Annexure III**.

### **(iii) Case Studies**

Where a situation allows, case studies can also be presented to the trainees to widen their understanding of the real-life specific problem/situation and to explore the solutions.

In simple terms, the case study method of teaching uses a real-life case example/a typical case to demonstrate a phenomenon in action and explain theoretical as well as practical aspects of the knowledge related to the same. It is an effective way to help the trainees comprehend in depth both the theoretical and practical aspects of the complex phenomenon in depth with ease. Case teaching can also stimulate the trainees to participate in discussions and thereby boost their confidence. It also makes the classroom atmosphere interesting thus maintaining the trainee interest in training till the end of the course.

Depending on suitability to the trade, the weekly lesson plan in this document may suggest case studies be presented to the trainees. The trainer may adopt a PowerPoint presentation or video format for such case studies whichever is deemed suitable but only those cases must be selected that are relevant and of a learning value.

The Trainees should be required and supervised to carefully analyze the cases.

For this purpose, they must be encouraged to inquire and collect specific information/data, actively participate in the discussions, and intended solutions to the problem/situation.

Case studies can be implemented in the following ways: -

- i. A good quality trade-specific documentary ( At least 2-3 documentaries must be arranged by the training institute)

	<ul style="list-style-type: none"> <li>ii. Health &amp; Safety case studies (2 cases regarding safety and industrial accidents must be arranged by the training institute)</li> <li>iii. Field visits( At least one visit to a trade-specific major industry/ site must be arranged by the training institute)</li> </ul>
<b>Entry-level of trainees</b>	Middle
<b>Learning Outcomes of the course</b>	<p>At the end of the course, the trainee must have attained the following competencies</p> <ul style="list-style-type: none"> <li>• diagnose repair and maintain by skills and knowledge gained through training and experience any of the working parts of Auto Mobiles as well as the various components of mobile industrial equipment.</li> <li>• use, competently, both hand and power tools in order to carry out repairs according to manufacturer's specifications.</li> <li>• read and understand work orders, prepare estimates, and interpret technical manuals</li> <li>• write service reports, diagnose the cause of failures and keep service analysis records.</li> <li>• when fully competent in all phases of general repairs, a Heavy Equipment Technician may specialize in any one of several areas of the trade such as, fuel pumps and injectors, track equipment, engine overhaul, controls, power shift transmissions and allied equipment.</li> <li>• outstanding individuals may advance to service representatives or supervisory positions</li> <li>• be familiar with the work in related trades such as Machinist and Welder</li> <li>• understand the fundamentals of operating a small business.</li> <li>• perform assigned tasks in accordance with quality and production standards required by industry.</li> </ul>
<b>Course Execution Plan</b>	<p>The total duration of the course: <b>6 months (26 Weeks)</b>  Class hours: <b>4 hours per day</b>  Theory: <b>20%</b>  Practical: <b>80%</b>  Weekly hours: <b>20 hours per week</b>  Total contact hours: <b>520 hours</b></p>
<b>Companies offering jobs in the respective trade</b>	All national & multinational industries
<b>Job Opportunities</b>	An Auto Mechanic is a tradesperson who possesses the full range of knowledge, abilities and skills required to diagnose, repair, adjust, overhaul, maintain, operate and test the mobile, heavy duty machinery used in the construction, forestry, mining, petrochemical, material handling, landscaping, land clearing, transportation, road building and farming sectors. They can become:

	<ul style="list-style-type: none"><li>• Auto mobile mechanic</li><li>• Stationary diesel engine mechanic</li></ul>
<b>No of Students</b>	25
<b>Learning Place</b>	Classroom / Lab
<b>Instructional Resources</b>	<ul style="list-style-type: none"><li>• Multimedia,</li><li>• White board</li><li>• Board marker</li></ul>

## MODULES

Scheduled Weeks	Module Title	Learning Units	Remarks
Week 1	Introduction	<p><b>Motivational Lecture</b> ( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Course Introduction</li> <li>• Job market</li> <li>• Course Applications</li> <li>• Institute/work ethics</li> <li>• Hazard at Workplace</li> <li>• Safety Signs</li> <li>• Safety Measures</li> <li>• Introduction to workshop practices</li> </ul>	<p style="text-align: center;"><b>Home Assignment</b></p> <ul style="list-style-type: none"> <li>• Task 1</li> <li>• Task 2</li> </ul> <p style="text-align: center;"><u>Details may be seen at Annexure-I</u></p>
Week 2	Basic Bench Work	<p><b>Success stories</b> ( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Various machining processes</li> <li>• Sawing with hand hacksaw</li> <li>• Filling the job</li> </ul>	<ul style="list-style-type: none"> <li>• Task 3</li> <li>• Task 4</li> </ul> <p style="text-align: center;"><u>Details may be seen at Annexure-I</u></p>
Week 3	Basic Machining	<p><b>Motivational Lecture</b> ( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Drilling process</li> <li>• Arc Welding</li> </ul>	<ul style="list-style-type: none"> <li>• Task 5</li> <li>• Task 6</li> </ul> <p style="text-align: center;"><u>Details may be seen at Annexure-I</u></p>
Week 4	Engine types and Components	<p><b>Success stories</b> ( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• IC and EC Engine</li> <li>• Two stroke and Four stroke engine</li> <li>• Engine classification</li> <li>• Identification and function of gasoline engine parts</li> <li>• Identification and function of Diesel Engine components</li> <li>• Engine Block and Cylinder Liner</li> <li>• Engine Block and Cylinder Liner</li> <li>• Piston, Piston Rings and Connecting Rod</li> <li>• Piston, Piston Rings and Connecting Rod</li> <li>• Crankshaft, Bearings and Related Component</li> </ul>	<p style="text-align: center;"><b>Task 7</b> <b>Task 8</b></p> <p style="text-align: center;"><u>Details may be seen at Annexure-I</u></p> <p style="text-align: center;"><b>Monthly Test 1</b></p>

		<ul style="list-style-type: none"> <li>• Crankshaft, Bearings and Related Component</li> <li>• Camshaft and Follower</li> <li>• Cylinder Head</li> </ul>	
Week 5 Week 6	Cooling system	<p><b>Motivational Lecture</b>( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Function and Types of cooling system</li> <li>• Parts of cooling system</li> <li>• Servicing Radiator</li> <li>• Replacing Thermostat valve</li> <li>• Replacing hose pipes.</li> <li>• Replacing coolant.</li> <li>• Antifreeze and corrosion</li> </ul>	<p><b>Task 9</b> <b>Task 10</b></p> <p><i>Details may be seen at <u>Annexure-I</u></i></p>
Week 7 Week 8	Intake and Exhaust System	<p><b>Success stories</b> ( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Air Intake and Exhaust Systems</li> <li>• Turbo Charged Air Systems</li> <li>• Emission Control</li> <li>• Servicing Air Filter Assembly</li> <li>• Servicing inlet manifold</li> <li>• Servicing exhaust manifold</li> <li>• Functioning of Turbo charger assembly</li> </ul>	<p><b>Task 11</b> <b>Task 12</b> <b>Task 13</b></p> <p><i>Details may be seen at <u>Annexure-I</u></i></p>
Week 9	Fuel System (Petrol)	<p><b>Motivational Lecture</b>( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Types and function of different fuel systems</li> <li>• Components and their function of fuel system</li> <li>• Electronic Fuel System Fundamentals</li> <li>• Sensors and actuators in fuel system</li> <li>• Electronic Fuel System Diagnosis</li> <li>• Fuel System Service</li> </ul>	<p><b>Task 14</b> <b>Task 15</b></p> <p><i>Details may be seen at <u>Annexure-I</u></i></p>
Week 10	Fuel System (Diesel)	<p><b>Success stories</b> ( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Components and their function of Diesel fuel system</li> <li>• Electronic Fuel System Fundamentals</li> <li>• Electronic Fuel System Diagnosis</li> <li>• Petrol Storage</li> </ul>	<p><b>Task 16</b> <b>Task 17</b></p> <p><i>Details may be seen at <u>Annexure-I</u></i></p>



		<ul style="list-style-type: none"> <li>• Combustion Process and Starting Aids</li> <li>• Fuel System Service</li> <li>• Mechanical Fuel Injection System</li> <li>• Advanced Mechanical Fuel Injection System</li> </ul>	
<b>Week 11</b>	<b>Lubrication system</b>	<p><b>Motivational Lecture</b>( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Main components and their function of engine lubrication system.</li> <li>• Types of oil pumps and understand its function.</li> <li>• Types of engine oil used in the engine with respect to viscosity.</li> <li>• Identify the function and types of oil filter.</li> <li>• Oil sump and its components</li> </ul>	<p><b>Task 18</b> <b>Task 19</b></p> <p><u>Details may be seen at Annexure-I</u></p>
<b>Week 12</b> <b>Week 13</b>	<b>Electrical System</b>	<p><b>Success stories</b> ( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Electrical fundamentals, symbols and signs</li> <li>• Types and function of electrical circuits</li> <li>• Types of battery</li> <li>• Electrical Wiring, Lighting Circuits and Circuit Protection</li> <li>• Battery test by use of hydrometer</li> <li>• De Sulphuration of Terminals.</li> <li>• Inspect and change the Ground (Earth) cable from the vehicle body.</li> <li>• Battery testing by using the load tester/battery tester and assess the battery performance.</li> <li>• Topping up battery</li> <li>• Safe removal and installation of Battery</li> <li>• Carry out safe procedure to charge the battery using an external charger</li> <li>• Vehicle charging system</li> <li>• Test output voltage of alternator.</li> <li>• Test drives belt condition and</li> </ul>	<p><b>Task 20</b> <b>Task 21</b> <b>Task 22</b> <b>Task 23</b></p> <p><u>Details may be seen at Annexure-I</u></p>

		<p>Tension, alternator bearing noise.</p> <ul style="list-style-type: none"> <li>• Test wire harness, fuse, and proper insulated wires.</li> <li>• Dismantle/service of alternator as following; Repair connector, replace carbon brushes, Replace Rectifier Bridge, replace voltage regulator and replace stator winding</li> </ul>	
<b>Week 14</b>	<b>Midterm</b>		
<b>Week 15</b>	<b>Ignition system</b>	<p><b>Motivational Lecture</b>( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Components and their function in ignition system</li> <li>• Function of ignition coil</li> <li>• Distributor types and function</li> <li>• Firing order and ignition timing</li> <li>• Advance and retard mechanism</li> <li>• Servicing (Inspect/ Replace) ignition switch, ignition coil, electrical connectors</li> </ul>	<p><b>Task 24</b> <b>Task 25</b> <b>Task 26</b></p> <p><u>Details may be seen at Annexure-I</u></p>
<b>Week 16</b>	<b>Brake system</b>	<p><b>Success stories</b> ( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Components and their Functions in the vehicle brake system (brake fluid, vacuum booster, master cylinder, brake wheel cylinder, disc run out, brake pad/shoe fading/worn, drum brake)</li> <li>• Servicing the Master cylinder, vacuum booster, wheel cylinder, brake disk, brake pad, and brake shoe under the specified procedure.</li> <li>• Brake bleeding</li> <li>• Air Antilock Brake Systems</li> <li>• Electric components of brake system</li> </ul>	<p><b>Task 27</b> <b>Task 28</b> <b>Task 29</b></p> <p><u>Details may be seen at Annexure-I</u></p>
<b>Week 17</b>	<b>Hydraulic brake</b>	<p><b>Motivational Lecture</b>( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>• Hydraulic Brake System Fundamentals</li> <li>• Hydraulic Brake System (Drum and Disc)</li> <li>• Hydraulic Brake System Diagnosis and Service</li> </ul>	<p><b>Task 30</b> <b>Task 31</b></p> <p><u>Details may be seen at Annexure-I</u></p>

		<ul style="list-style-type: none"> <li>Hydraulic Brake Booster System Fundamentals and Service</li> <li>Parking Brake System Fundamentals and Service</li> <li>Electric Brake Fundamentals and Service</li> <li>Hydraulic Antilock Brake Systems</li> </ul>	
<b>Week 18</b>	<b>Steering System</b>	<p><b>Success stories</b> ( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>Steering Fundamentals <ul style="list-style-type: none"> <li>Types and functions of mechanical steering system</li> <li>Types and functions of power steering system</li> <li>Rubber boots on (inner and outer ball joint), Tie rod condition, and inner/outer ball joints play, steering rack and pinion box, mounting for the steering box under the specified procedure.</li> </ul> </li> <li>Steering Service</li> <li>Steering Angles and Alignment</li> </ul>	<p><b>Task 32</b> <b>Task 33</b></p> <p><u>Details may be seen at Annexure-I</u></p>
<b>Week 19</b>	<b>SUSPENSION SYSTEMS</b>	<p><b>Motivational Lecture</b>( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>identification and Function of suspension types</li> <li>Types of springs</li> <li>Introduction to computerized suspension system</li> <li>Suspension components and Fundamentals</li> <li>Bearings and Seals, Wheels, Tires, and Hubs</li> <li>Wheel balancing and alignment (Caster and camber, toe in and toe out)</li> </ul>	<ul style="list-style-type: none"> <li><b>Task 35</b></li> <li><b>Task 36</b></li> <li><b>Task 37</b></li> </ul> <p><u>Details may be seen at Annexure-I</u></p>
<b>Week 20</b>	<b>VEHICLE ELECTRICAL DIAGNOSIS, FAILURE ANALYSIS AND APPRENTICESHIP</b>	<p><b>Success stories</b> ( For further detail please see Page No: 3&amp; 4)</p> <ul style="list-style-type: none"> <li>Car Electrical Circuit Fundamentals</li> <li>Car Electrical Circuit Service</li> <li>Failure Analysis</li> <li>Orientation to Vehicle Inspection</li> <li>Workplace Coaching Skills</li> <li>Advisory Network</li> <li>Interprovincial Standards</li> </ul>	<ul style="list-style-type: none"> <li><b>Task 38</b></li> <li><b>Task 39</b></li> </ul> <p><u>Details may be seen at Annexure-I</u></p>
<b>Week 21</b>	<b>Employable</b>	<ul style="list-style-type: none"> <li>Guidelines to the Trainees for selection</li> </ul>	

	<p><b>Project/Assignment (6 weeks i.e. 21-26) besides regular classes.</b>  <b>OR</b>  <b>On the job training ( 2 weeks)</b></p>	<p>of students employable project like final year project (FYP)</p> <ul style="list-style-type: none"> <li>• Assign Independent project to each Trainee</li> <li>• A project-based on trainee's aptitude and acquired skills.</li> <li>• Designed by keeping in view the emerging trends in the local market as well as across the globe.</li> <li>• The project idea may be based on Entrepreneur.</li> <li>• Leading to successful employment.</li> <li>• The duration of the project will be 6 weeks</li> <li>• Ideas may be generated via different sites such as:  <a href="https://1000projects.org/">https://1000projects.org/</a>  <a href="https://nevonprojects.com/">https://nevonprojects.com/</a>  <a href="https://www.freestudentprojects.com/">https://www.freestudentprojects.com/</a>  <a href="https://technofizi.net/best-computer-science-and-engineering-cse-project-topics-ideas-for-students/">https://technofizi.net/best-computer-science-and-engineering-cse-project-topics-ideas-for-students/</a></li> <li>• Final viva/assessment will be conducted on project assignments.</li> <li>• At the end of the session, the project will be presented in a skills competition</li> <li>• The skill competition will be conducted on zonal, regional, and National levels.</li> <li>• The project will be presented in front of Industrialists for commercialization</li> <li>• The best business idea will be placed in the NAVTTC business incubation center for commercialization.</li> </ul> <p style="text-align: center;"><b>OR</b></p> <p><b>On the job training for 2 weeks:</b></p> <ul style="list-style-type: none"> <li>• Aims to provide 2 weeks of industrial training to the Trainees as part of the overall training program</li> <li>• Ideal for the manufacturing trades</li> <li>• As an alternative to the projects that involve expensive equipment</li> <li>• Focuses on increasing Trainee's motivation, productivity, efficiency, and quick learning approach.</li> </ul>	
<p><b>Week 22</b></p>	<p><b>Capstone project</b></p>	<p>Students are provided with details regarding a capstone project that they are required to complete to showcase their learning. The project should</p>	<p><b>Monthly Test</b> <b>6</b></p>

		<p>ideally consist of the following deliverables:</p> <ol style="list-style-type: none"> <li>1. Design brief/description outlining their project</li> <li>2. Research collected during the project</li> <li>3. Rough sketches, either hand-drawn or digitally created that showcase their design process</li> <li>4. Professionally presented a main body of artwork at the end of the course</li> </ol> <p>Notes for the Trainer/Teacher:</p> <ul style="list-style-type: none"> <li>• Each student must receive a separate/independent project based on their strengths and interests. This will reinforce their motivation and determine their aptitude towards specific design fields.</li> <li>• Each project should be designed keeping future design trends as well as current market demands in mind</li> <li>• The duration for the completion of the project is 4 weeks</li> </ul> <p>It's important to reiterate the value of these projects as each student will later be able to showcase their creative effort in the real world market, giving them leverage over others for better employment.</p> <p>Ideas for projects may be generated via different sites such as:  <a href="https://1000projects.org/">https://1000projects.org/</a>  <a href="https://benahce.com/">https://benahce.com/</a>  <a href="https://www.freestudentprojects.com/">https://www.freestudentprojects.com/</a></p>	
<b>Week 23</b>	<b>Introduction to freelancing</b>	<ul style="list-style-type: none"> <li>• <b>Motivational Lecture</b>( <i>For further detail please see Page No: 3&amp; 4</i>)</li> </ul> <p>Students are introduced to:</p> <ul style="list-style-type: none"> <li>• the concept of freelancing</li> <li>• how to become freelance and create a sustainable income</li> <li>• pros and cons of freelancing</li> <li>• the ethical and professional way of becoming a productive freelancer</li> <li>• resources available for freelancing in the field of design</li> <li>• how to join freelancing sites</li> <li>• the process of creating a freelancing profile</li> </ul>	

<p><b>Week 24</b></p>	<p><b>Professional practice methods &amp; legal side of design</b></p>	<ul style="list-style-type: none"> <li>• <b>Success stories</b> ( <i>For further detail please see Page No: 3&amp; 4</i>)</li> </ul> <p>Students are introduced to:</p> <ul style="list-style-type: none"> <li>• the standards that define the expectations of a professional designer</li> <li>• the principles of integrity that demonstrate respect for the profession, for colleagues, for clients, for audiences or consumers, and society as a whole</li> <li>• the perspectives of the design profession i.e. understanding the profession, the meanings of environmental responsibility, copyright, and ethics</li> <li>• what legalities are involved in professional design projects</li> <li>• how to build strong professional proposals</li> <li>• copyrights, copyright infringement, plagiarism, crediting creators, purchasing online products, downloading 'free' content</li> <li>• the do's and don'ts of how to price their time, effort, and creativity</li> </ul>	
<p><b>Week 25</b></p>	<p><b>Preparing your portfolio</b></p>	<ul style="list-style-type: none"> <li>• <b>Motivational Lecture</b>( <i>For further detail please see Page No: 3&amp; 4</i>)</li> </ul> <p>Students are introduced to:</p> <ul style="list-style-type: none"> <li>• the concept of design portfolios</li> <li>• the concept of present design work/projects in a professional manner</li> <li>• websites that provide free portfolio hosting such as Behance and Dribble</li> <li>• creating a portfolio</li> <li>• how to select work for presenting in your portfolio</li> </ul>	<p style="text-align: center;"><b>Final Assessment</b></p>
<p><b>Week 26</b></p>	<p><b>Entrepreneurship and Final Assessment in project</b></p>	<ul style="list-style-type: none"> <li>• <b>Success stories</b> ( <i>For further detail please see Page No: 3&amp; 4</i>)</li> <li>• Job Market Searching</li> <li>• Self-employment</li> <li>• Introduction</li> <li>• Fundamentals of Business Development</li> <li>• Entrepreneurship</li> <li>• Startup Funding</li> <li>• Business Incubation and Acceleration</li> <li>• Business Value Statement</li> </ul>	

		<ul style="list-style-type: none"><li>• Business Model Canvas</li><li>• Sales and Marketing Strategies</li><li>• How to Reach Customers and Engage CxOs</li><li>• Stakeholders Power Grid</li><li>• RACI Model, SWOT Analysis, PEST Analysis</li><li>• SMART Objectives</li><li>• OKRs</li><li>• Cost Management (OPEX, CAPEX, ROCE, etc.)</li><li>• Final Assessment</li></ul>	
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## Tasks For Certificate in AUTO MECHANIC

Task No.	Description	Week
1.	Identify different types of hazards	Week 1
2.	Interoperate the safety signs and symbols	
3.	Saw the job on angel	Week 2
4.	Finish the job surface	
5.	Drill the hole with pedestal drill machine	Week 3
6.	Arc Weld two parts in T Shape	
7.	Differentiate the two and four stock engines	Week 4
8.	Place the compression ring in piston	
9.	Service the Radiator	Week 5&6
10.	Replace Thermostat valve	
11.	Replace the air filter	Week 7&8
12.	Service turbo charger	
13.	Service the air intake assembly	
14.	Replace fuel pump	Week 9
15.	Replace fuel sensor	
16.	Replace Fuel injectors	Week 10
17.	Replace fuel injection pump	
18.	Service the oil pump	Week 11
19.	Replace the oil filter	
20.	Prepare electrolyte	Week 12 &13
21.	Construct parallel & series circuit	
22.	Construct horn circuit	
23.	Construct headlight circuit	Week 15
24.	Replace ignition coil	
25.	Service the distributor	
26.	Replace ignition switch	Week 16
27.	Adjust brake paddle	
28.	Replace brake leathers	
29.	Service the brake booster	Week 17
30.	Air bleed the brake system	
31.	Service the parking brake	Week 18
32.	Service the rack & pinion assembly	



33.	Replace the rubber boots	
34.	Replace the power unit	
35.	Replace the leaf spring	
36.	Replace the shock absorber	Week 19
37.	Replace the hub	
38.	Explain the operation of car lighting circuits.	Week 20
39.	Explain the operation of car accessory circuits	
40.	<ul style="list-style-type: none"> <li>• Browse the following website and create an account on each website <ul style="list-style-type: none"> <li>▪ Bayt.com – The Middle East Leading Job Site</li> <li>▪ Monster Gulf – The International Job Portal</li> <li>▪ Gulf Talent – Jobs in Dubai and the Middle East</li> </ul> </li> <li>• Find the handy 'search' option at the top of your homepage to search for the jobs that best suit your skills.</li> <li>• Select the job type from the first 'Job Type' drop-down menu, next, select the location from the second drop-down menu.</li> <li>• Enter any keywords you want to use to find suitable job vacancies.</li> <li>• On the results page you can search for part-time jobs only, full-time jobs only, employers only, or agencies only. Tick the boxes as appropriate to your search.</li> <li>• Search for jobs by: <ul style="list-style-type: none"> <li>▪ Company</li> <li>▪ Category</li> <li>▪ Location</li> <li>▪ All jobs</li> <li>▪ Agency</li> <li>▪ Industry</li> </ul> </li> </ul>	Week 21 onwards

**Annexure-II:**

## AUTOMECHANIC

What is freelancing and how you can make money online - BBCURDU

<https://www.youtube.com/watch?v=9jCJN3Ff0kA>

What Is the Role of Good Manners in the Workplace? By Qasim Ali Shah | In Urdu

<https://www.youtube.com/watch?v=Qi6Xn7yKIIQ>

**Hisham Sarwar Motivational Story | Pakistani Freelancer**

[https://www.youtube.com/watch?v=CHm\\_BH7xAXk](https://www.youtube.com/watch?v=CHm_BH7xAXk)

**21 Yr Old Pakistani Fiverr Millionaire | 25-35 Lakhs a Month Income | Interview**

<https://www.youtube.com/watch?v=9WrmYYhr7S0>

**Failure to Millionaire - How to Make Money Online | Fiverr Superhero Aaliyaan Success Story**

<https://www.youtube.com/watch?v=d1hocXWSpus>

## Annexure-II

### SUGGESTIVE FORMAT AND SEQUENCE ORDER OF MOTIVATIONAL LECTURE.

#### Mentor

Mentors are provided an observation checklist form to evaluate and share their observational feedback on how students within each team engage and collaborate in a learning environment. The checklist is provided at two different points: Once towards the end of the course. The checklists are an opportunity for mentors to share their unique perspective on group dynamics based on various team activities, gameplay sessions, pitch preparation, and other sessions, giving insights on the nature of communication and teamwork taking place and how both learning outcomes and the student experience can be improved in the future.

#### Session- 1 (Communication):

Please find below an overview of the activities taking place Session plan that will support your delivery and an overview of this session's activity.

Session- 1 OVERVIEW
Aims and Objectives:
<ul style="list-style-type: none"> <li>• To introduce the communication skills and how it will work</li> <li>• Get to know mentor and team - build rapport and develop a strong sense of a team</li> <li>• Provide an introduction to communication skills</li> <li>• Team to collaborate on an activity sheet developing their communication, teamwork, and problem-solving</li> <li>• Gain an understanding of participants' own communication skills rating at the start of the program</li> </ul>

Activity:	Participant Time	Teacher Time	Mentor Time
Intro Attend and contribute to the scheduled.			
Understand good communication skills and how it works.			
Understand what good communication skills mean			
Understand what skills are important for good communication skills			
<b>Key learning outcomes:</b>	<b>Resources:</b>		<b>Enterprise skills developed:</b>
• Understand the	• Podium		• Communication

<p>communication skills and how it works.</p> <ul style="list-style-type: none"> <li>• Understand what communication skills mean</li> <li>• Understand what skills are important for communication skills</li> </ul>	<ul style="list-style-type: none"> <li>• Projector</li> <li>• Computer</li> <li>• Flip Chart</li> <li>• Marker</li> </ul>	<ul style="list-style-type: none"> <li>• Self Confidence</li> <li>• Teamwork</li> </ul>
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Schedule	Mentor Should do
<p><b>Welcome:</b> <b>5 min</b></p>	<p>Short welcome and ask the <b>Mentor</b> to introduce him/herself. Provide a brief welcome to the qualification for the class. Note for Instructor: Throughout this session, please monitor the session to ensure nothing inappropriate is being happened.</p>
<p><b>Icebreaker:</b> <b>10 min</b></p>	<p>Start your session by delivering an icebreaker, this will enable you and your team to start to build rapport and create a team presentation for the tasks ahead. The icebreaker below should work well at introductions and encouraging communication, but feel free to use others if you think they are more appropriate. It is important to encourage young people to get to know each other and build strong team links during the first hour; this will help to increase their motivation and communication throughout the sessions.</p>
<p><b>Introduction &amp; Onboarding:</b> <b>20mins</b></p>	<p>Provide a brief introduction of the qualification to the class and play the “Onboarding Video or Presentation”. In your introduction cover the following:</p> <ol style="list-style-type: none"> <li>1. Explanation of the program and structure. (Kamyab jawan Program)</li> <li>2. How you will use your communication skills in your professional life.</li> <li>3. Key contacts and key information – e.g. role of teacher, mentor, and SEED. Policies and procedures (user agreements and “contact us” section). Everyone to go to the Group Rules tab at the top of their screen, read out the rules, and ask everyone to verbally agree. Ensure that the consequences are clear for using the platform outside of hours. (9am-8pm)</li> <li>4. What is up next for the next 2 weeks ahead so young people know what to expect (see pages 5-7 for an overview of the challenge). Allow young people to ask any questions about the session topic.</li> </ol>
<p><b>Team Activity Planning:</b> <b>30 minutes</b></p>	<p>MENTOR: Explain to the whole team that you will now be planning how to collaborate for the first and second collaborative Team Activities that will take place outside of the session. There will not be another session until</p>

	<p>the next session so this step is required because communicating and making decisions outside of a session requires a different strategy that must be agreed upon so that everyone knows what they are doing for this activity and how.</p> <ul style="list-style-type: none"> <li>• “IDENTIFY ENTREPRENEURS” TEAM ACTIVITY</li> <li>• “BRAINSTORMING SOCIAL PROBLEMS” TEAM ACTIVITY”</li> </ul> <p><i>As a team, collaborate on a creative brainstorm on social problems in your community. Vote on the areas you feel most passionate about as a team, then write down what change you would like to see happen.</i></p> <p>Make sure the teams have the opportunity to talk about how they want to work as a team through the activities e.g. when they want to complete the activities, how to communicate, the role of the project manager, etc.</p> <p>Make sure you allocate each young person a specific week that they are the project manager for the weekly activities and make a note of this.</p> <p>Type up notes for their strategy if this is helpful - it can be included underneath the Team Contract.</p>
<p><b>Session Close:</b> <b>5 minutes</b></p>	<p><b>MENTOR:</b> Close the session with the opportunity for anyone to ask any remaining questions.</p> <p><b>Instructor:</b> Facilitate the wrap-up of the session. A quick reminder of what is coming up next and when the next session will be.</p>

## MOTIVATIONAL LECTURES LINKS.

<b>TOPIC</b>	<b>SPEAKER</b>	<b>LINK</b>
How to Face Problems In Life	Qasim Ali Shah	<a href="https://www.youtube.com/watch?v=OrQte08MI90">https://www.youtube.com/watch?v=OrQte08MI90</a>
Just Control Your Emotions	Qasim Ali Shah	<a href="https://www.youtube.com/watch?v=JzFs_yJt-w">https://www.youtube.com/watch?v=JzFs_yJt-w</a>
How to Communicate Effectively	Qasim Ali Shah	<a href="https://www.youtube.com/watch?v=PhHAQEGehKc">https://www.youtube.com/watch?v=PhHAQEGehKc</a>
Your ATTITUDE is Everything	Tony Robbins Les Brown David Goggins Jocko Willink Wayne Dyer Eckart Tolle	<a href="https://www.youtube.com/watch?v=5fS3rj6eIFg">https://www.youtube.com/watch?v=5fS3rj6eIFg</a>
Control Your EMOTIONS	Jim Rohn Les Brown TD Jakes Tony Robbins	<a href="https://www.youtube.com/watch?v=chn86sH0O5U">https://www.youtube.com/watch?v=chn86sH0O5U</a>
Defeat Fear, Build Confidence	Shaykh Atif Ahmed	<a href="https://www.youtube.com/watch?v=s10dzfbozd4">https://www.youtube.com/watch?v=s10dzfbozd4</a>
Wisdom of the Eagle	Learn Kurooji	<a href="https://www.youtube.com/watch?v=bEU7V5rJTtw">https://www.youtube.com/watch?v=bEU7V5rJTtw</a>
The Power of ATTITUDE	Titan Man	<a href="https://www.youtube.com/watch?v=r8LJ5X2ejqU">https://www.youtube.com/watch?v=r8LJ5X2ejqU</a>
STOP WASTING TIME	Arnold Schwarzenegger	<a href="https://www.youtube.com/watch?v=kzSBrJmXqdg">https://www.youtube.com/watch?v=kzSBrJmXqdg</a>
Risk of Success	Denzel Washington	<a href="https://www.youtube.com/watch?v=tbnzAVRZ9Xc">https://www.youtube.com/watch?v=tbnzAVRZ9Xc</a>

**SUCCESS STORY**

S. No	Key Information	Detail/Description
1.	Self & Family background	
2.	How he came on board NAVTTC Training/ or got trained through any other source	
3.	Post-training activities	
4.	Message to others (under training)	

**Note:** Success story is a source of motivation for the trainees and can be presented in several ways/forms in a NAVTTC skill development course as under: -

1. To call a passed out successful trainee of the institute. He will narrate his success story to the trainees in his own words and meet trainees as well.
2. To see and listen to a recorded video/clip (5 to 7 minutes) showing a successful trainee Audio-video recording that has to cover the above-mentioned points.\*
3. The teacher displays the picture of a successful trainee (name, trade, institute, organization, job, earning, etc) and narrates his/her story in the teacher's own motivational words.

\* The online success stories of renowned professional can also be obtained from **Annex-II**

## Workplace/Institute Ethics Guide

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Work ethic is a standard of conduct and values for job performance. The modern definition of what constitutes good work ethics often varies. Different businesses have different expectations. Work ethic is a belief that hard work and diligence have a moral benefit and an inherent ability, virtue, or value to strengthen character and individual abilities. It is a set of values-centered on the importance of work and manifested by determination or desire to work hard.

The following ten work ethics are defined as essential for student success:

**1. Attendance:**

Be at work every day possible, plan your absences don't abuse leave time. Be punctual every day.

**2. Character:**

Honesty is the single most important factor having a direct bearing on the final success of an individual, corporation, or product. Complete assigned tasks correctly and promptly. Look to improve your skills.

**3. Team Work:**

The ability to get along with others including those you don't necessarily like. The ability to carry your weight and help others who are struggling. Recognize when to speak up with an idea and when to compromise by blend ideas together.

**4. Appearance:**

Dress for success set your best foot forward, personal hygiene, good manner, remember that the first impression of who you are can last a lifetime

**5. Attitude:**

Listen to suggestions and be positive, accept responsibility. If you make a mistake, admit it. Values workplace safety rules and precautions for personal and co-worker safety. Avoids unnecessary risks. Willing to learn new processes, systems, and procedures in light of changing responsibilities.

**6. Productivity:**

Do the work correctly, quality and timelines are prized. Get along with fellows, cooperation is the key to productivity. Help out whenever asked, do extra without being asked. Take pride in your work, do things the best you know-how. Eagerly focuses energy on accomplishing tasks, also referred to as demonstrating ownership. Takes pride in work.



**7. Organizational Skills:**

Make an effort to improve, learn ways to better yourself. Time management; utilize time and resources to get the most out of both. Take an appropriate approach to social interactions at work. Maintains focus on work responsibilities.

**8. Communication:**

Written communication, being able to correctly write reports and memos. Verbal communications, being able to communicate one on one or to a group.

**9. Cooperation:**

Follow institute rules and regulations, learn and follow expectations. Get along with fellows, cooperation is the key to productivity. Able to welcome and adapt to changing work situations and the application of new or different skills.

**10. Respect:**

Work hard, work to the best of your ability. Carry out orders, do what's asked the first time. Show respect, accept, and acknowledge an individual's talents and knowledge. Respects diversity in the workplace, including showing due respect for different perspectives, opinions, and suggestions.