

## First and second Semester

### Module 1

Module Information			
Module Title	Workshops		<b>Module Delivery</b> <input type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input checked="" type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Type	Support		
Module Code	WORK106		
ECTS Credit/year	8		
SWL/year	200		
Module level	1	Semester of Delivery	1, 2
Module Leader	Training and Workshops Center	College	Engineering
Module Leader Academic Title	Prof. Hasan Ahmed	e-mail	<a href="mailto:ha.ah882@gmail.com">ha.ah882@gmail.com</a>
Module Tutor		Module Leader's Qualification	Ph.D.
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	3/4/2024	e-mail	
		Version Number	1

Relation with other Modules			
Prerequisite Module	-	Semester	-
Co-requisite Module	-	Semester	-

Module Aims, Learning Outcomes and Inductive Contents	
Module Aims	1-Preparing applied engineers in the field of engineering sciences who are distinguished by a high level of knowledge and technological creativity, in line with the strict standards adopted globally in quality assurance and academic accreditation of the corresponding engineering programs, while adhering to the ethics of the engineering profession. 2. Enable the student to know and understand work systems, risks, and the factors surrounding them. 3. Enable the student to know and understand theoretical principles in handicrafts and measurements.
Module Learning Outcomes	1- To familiarize the student with the vocabulary of occupational safety and its importance in the field of work. 2- Acquisition of the student's manual operation skills, for example (Filings and

	<p>Tinsmith workshops), and mechanical operation skills, for example (Turning).</p> <p>3- Acquisition of the student's mechanical forming skills, for example (Casting and Blacksmithing).</p> <p>4- The student acquires basic engineering skills such as Welding, Carpentry, and Electrical installations that serve him in the professional field.</p> <p>5- Enabling the student to operate the various machines and devices in mechanical operations and formation.</p> <p>6- Cooperative learning by working collectively.</p>
<p>Inductive Contents</p>	<ol style="list-style-type: none"> <li>1. Introducing the student to the basics of the art of turning and milling, types of cold working machines, the skill of dealing with them, choosing metals, operational tools, and methods of measurement and standardization</li> <li>2. Introducing the student to the basics of the art of casting, hot forming, metal selection, method of working on casting furnaces and tools, and manufacturing casting molds</li> <li>3. Familiarize students with the basics of cars and the systems they use, as well as maintenance, disassembly, and assembly processes.</li> <li>4. Introducing students to the basics of household and industrial electrical appliances, the skill of using tools, and designing electrical circuits and control panels</li> <li>5. Introducing the student to the basics of the art of plumbing, leveling surfaces, the skill of using tools, manufacturing and installing geometric shapes, and methods of measurement and standardization</li> <li>6. Introducing the student to the basics of the art of blacksmithing, cold and hot forming of metals, the method of hardening them, and the skills of dealing with hand tools, forming machines, and heating furnaces</li> <li>7. Introducing the student to the basics of the art of filing and manual operation of metals with the help of manual, electrical, and mechanical tools, the skills of dealing with them, and the methods of measurement and standardization</li> <li>8. Introducing the student to the basics of the art of welding, the installation and assembly of metals, the types of welding machines, the skills of dealing with them, the types of welding, and the methods of measurement and standardization</li> <li>9. Introducing the student to the basics of the art of carpentry and woodworking with the help of manual, electrical, and mechanical tools, the skills of dealing with them, and methods of measurement and standardization</li> </ol>

<p>Learning and Teaching Strategies</p>	
<p>Strategies</p>	

Student Workload (SWL)			
Structured SWL (h/sem)	93	Structured SWL (h/w)	6.00
Unstructured SWL (h/sem)	7	Unstructured SWL (h/w)	0.46
Total SWL (h/sem)	100		
Structured SWL (h/year)	186	Structured SWL (h/w)	6.00
Unstructured SWL (h/year)	14	Unstructured SWL (h/w)	0.46
Total SWL (h/year)	200		

Module Evaluation					
		Time/No.	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative Assessment	Quizzes				
	Assignments				All
	Projects / Practice	Every 3 weeks	60%	Continuous	
	Report				
Summative Assessment	Midterm Exam				
	Exam	Every 3 weeks	40%	Continuous	All
Total assessment			100%		

Delivery Plan (Weekly Syllabus)	
	Materials Covered
Week 1	Welding workshop. -Occupational safety and its importance in welding workshops. -Introduction to the basics of welding. -Electric arc exercise. -An exercise for welding straight lines in a circular motion (helical).
Week 2	Welding workshop - An exercise for welding straight lines with a crescent movement and other welding methods -Construction welding exercise.
Week 3	Welding workshop. -Welding two pieces together. -Written exam in practical exercises. -
Week 4	Casting workshop -Occupational safety and its importance in plumbing workshops.

	<ul style="list-style-type: none"> <li>-Introduction to the basics of metal casting.</li> <li>-Simple wooden disc exercise.</li> <li>Half workout.</li> </ul>
Week 5	<ul style="list-style-type: none"> <li>Casting workshop</li> <li>Wheel exercise.</li> <li>Pushing arm exercise.</li> </ul>
Week 6	<ul style="list-style-type: none"> <li>Casting workshop.</li> <li>-Complete pulley exercise.</li> <li>-Circular pole exercise.</li> <li>-Written exam in practical exercises.</li> </ul>
Week 7	<ul style="list-style-type: none"> <li>Blacksmith Workshop</li> <li>-Occupational safety and its importance in blacksmithing workshops.</li> <li>-Introduction to the Basics of Blacksmithing.</li> <li>- Barbell adjustment exercise.</li> <li>-Eight-star exercise.</li> <li>- Exercise forming the number eight in English.</li> <li>-Six formation exercises in English.</li> </ul>
Week 8	<ul style="list-style-type: none"> <li>Blacksmith Workshop</li> <li>-An exercise forming the number five in English.</li> <li>- Exercise forming the number nine in English.</li> <li>-An exercise in forming an iron model in the form of a circle .</li> </ul>
Week 9	<ul style="list-style-type: none"> <li>Blacksmith Workshop</li> <li>- S-shape exercise.</li> <li>- Air hammer hot barbell exercise.</li> <li>- Exercise to form a circle on an electric bending machine.</li> <li>- Exercising cold and hot ornament formation.</li> <li>- A written exam in practical exercises .</li> </ul>
Week 10	<ul style="list-style-type: none"> <li>Automotive Workshop</li> <li>-Occupational safety and its importance in car maintenance workshops.</li> <li>-An introduction to cars and their basic parts.</li> <li>-Parts of the engine, how it works, types of engines, and methods of classification.</li> </ul>
Week 11	<ul style="list-style-type: none"> <li>Automotive Workshop</li> <li>- Open the engine and identify the parts</li> <li>-Lubrication system</li> <li>-Cooling system.</li> </ul>
Week 12	<ul style="list-style-type: none"> <li>Automotive Workshop</li> <li>-The fuel system.</li> <li>-The old and new ignition circuits.</li> <li>-Written exam in practical exercises.</li> </ul>
Week 13	<ul style="list-style-type: none"> <li>Turning Workshop</li> <li>-Introduction to lathe machines and identifying their parts</li> <li>-Measuring tools and the use of an oven measuring instrument</li> </ul>

	-Circular column lathing exercise on different diameters.
Week 14	Turning Workshop -Exercise using the pen (semicircular R) brackets. An exercise in making different angles using a pen (square + angle pen 55).
Week 15	Turning Workshop - Making shaft with different diameter exercises using (left and right pen) - Workout (Tube Connection). -Written exam in practical exercises.
Week 16	Fitting workshop Occupational safety and its importance in filing workshops -An introduction to the basics of filing -Pen holder exercise “preparation and preparation”
Week 17	Fitting workshop Pencil holder exercises finishing and assembling.
Week 18	Fitting workshop -The catcher exercise. - Clamping exercise. Written exam in practical exercises.
Week 19	Carpentry workshop -Occupational safety and its importance in carpentry workshops. - An introduction to carpentry, its types, types of wood, tools used, and preparation Preparing the tools used Face modification exercise using the reindeer
Week 20	Carpentry workshop Garden fence work and how to connect its parts, the eight-star exercise
Week 21	Carpentry workshop - Wood smoothing exercise using smoothing paper - Wood dyeing exercise in three stages Final smoothing and varnishing exercise Written exam in practical exercises
Week 22	The tinsmith workshop Occupational safety and its importance in plumbing workshops An introduction to plumbing, its tools, and plumbing stages Planning and marking exercise on metal plates
Week 23	The tinsmith workshop Geometric shapes Types of individuals and methods of individuals Geometric shape individuals exercise on a metal board
Week 24	The tinsmith workshop Cone members exercise

	<ul style="list-style-type: none"> <li>- Exercise of cylinders with an oblique cut</li> <li>Roll forming operations</li> <li>Connection without the use of an intermediary</li> <li>Written exam in practical exercises</li> </ul>
Week 25	<p>Electric Workshop</p> <p>Occupational Safety and its importance in electrical workshops</p> <p>An introduction to the basics of electrical installations</p> <ul style="list-style-type: none"> <li>- Linking a simple circuit consisting of a lamp to the control of a single-way switch.</li> </ul> <p>Connect two lamps in series with one-way switch control.</p> <p>Connecting two lamps in parallel with the control of a single road switch.</p> <p>Connect two lights with one-way dual switch control.</p>
Week 26	<p>electric Workshop</p> <p>Connect a fluorescent lamp circuit to a one-way switch control</p> <p>Connecting an electric supply socket circuit to the control of a separate or combined one-way switch</p> <p>Written exam in practical exercises</p>
Week 27	<p>electric Workshop</p> <p>Occupational Safety and its importance in blacksmithing workshops</p> <p>Introduction to the basics of Blacksmithing</p> <ul style="list-style-type: none"> <li>- Barbell adjustment exercise</li> </ul> <p>Eight-star exercise</p> <ul style="list-style-type: none"> <li>- Exercise forming the number eight in English</li> </ul> <p>Exercise forming the number six in English</p>
Week 28	<p>supplementary training curriculum</p> <p>Welding workshop</p> <p>Plumbing workshop</p> <p>Blacksmith's workshop</p>
Week 29	<p>supplementary training curriculum</p> <ul style="list-style-type: none"> <li>- Automotive workshop</li> <li>- Turning workshop</li> </ul> <p>Fitting workshop</p>
Week 30	<p>supplementary training curriculum</p> <p>Carpentry workshop</p> <p>The plumbing workshop</p> <p>electric Workshop</p>

Learning and Teaching Resources		
	Text	Available in the library
Required Texts	Workshop technology and measurements, Ahmed Salem Al-Sabbagh,	yes

Recommended Texts		
Websites		