

Govt. Polytechnic Kullu (H.P.)
Lesson Plan

Branch : Civil Engineering

Subject : Engineering Workshops-II

Teacher : Pankaj Kumar

Subject Code: ES 104

Semester : 1st

Session : Aug. - Nov. -2026

Scheme : N-2026

Evaluation Scheme

Sr. No	Subject Name	Study scheme (Hrs/Week)		Credit	Marks in Evaluation Scheme			
					Internal Assessment		External Assessment	
		Th	Pr		Th	Pr	Th	Pr
1.	Engineering Workshops-II	-	6	3	-	50	-	100

Course Outcomes (COs)

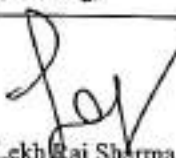
CO - 1	Identify tools, equipment and materials used in preparing jobs.
CO - 2	Take measurements with the help of basic measuring tools/equipment.
CO - 3	Select materials, tools, and sequence of operations to make a job as per given specifications /drawing.
CO - 4	Prepare simple jobs independently and inspect the same.
CO - 5	Use safety equipment and Personal Protection Equipment (PPE).
CO - 6	Maintain good housekeeping practices.

Teaching Plan

Workshop	Detail of Contents	Proposed Date	Remarks
Plumbing Workshop	Introduction and demonstration of tools, equipment, plumbing workshop specific safety precautions. Other plumbing related activities and repair and maintenance works.	These Workshops will be carried out as per the individual workshop teaching plan and approved rotation plan.	To be taught by Sh. Anurudh, WSI (Fitting)
Sheet Metal Workshop	Introduction and demonstration of tools, equipment, sheetmetal workshop specific safety precautions. Total 6 jobs to be prepared by the students.		To be taught by faculty of nearby ITI/ Polytechnic
Welding Workshop	Introduction and demonstration of tools, equipment, welding workshop specific safety precautions. Total 6 jobs to be prepared by the students.		To be taught by Sh. Bhupender Singh, WSI (Welding)


Swarn Singh
Foreman Instructor


Pankaj Kumar
Workshop Supdt.


Sh. Lekhraj Sharma
HOD (AS&H)

ENGINEERING WORKSHOP ROTATION PLAN FOR SESSION Aug. - Nov. 2026

BRANCH: CIVIL ENGINEERING

SEMESTER: 1ST

SUBJECT: ENGINEERING WORKSHOPS-II

GROUP 1 & GROUP 2						
SR. NO.	MONTH	Proposed DATES	PLUMBING W/SHOP	WELDING W/SHOP	SHEETMETAL W/SHOP	REMARKS <i>Actual Dates</i>
1	AUG. SEP. OCT. NOV.	13, 21, 28 5, 17, 24 1, 9, 17, 24, 31, 19, 26.	GROUP A	GROUP B	GROUP C	
2	AUG. SEP. OCT. NOV.	14, 22, 29, 18, 18, 25, 3, 15, 22, 29 12, 20, 27,	GROUP C	GROUP A	GROUP B	
3	AUG. SEP. OCT. NOV.	20, 27, 3, 11, 19, 26, 8, 16, 23, 30 13, 21, 28.	GROUP B	GROUP C	GROUP A	

GROUP A : ROLLNO 1-17

GROUP B : ROLLNO 18-34

GROUP C : ROLLNO 35-51



Sh. Swarn Singh
FOREMAN INSTRUCTOR



Sh. Pankaj Kumar
WORKSHOP SUPDT.

Govt. Polytechnic Kullu (H.P.)
Engineering Workshop Practices Planning

Branch : **Civil Engineering**

Semester: **1st**

Subject : **Engineering Workshops -II(Plumbing Workshop)**

Session: **Aug. - Nov. -2026**

Teacher: **Anurudh . WSI Fitting**

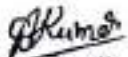
Scheme: **N-2026**

Course Code: **ES104**

No. of Credits : **3(L:0,T:0,P:6)**
 (Teaching Load)

Workshop	Month	Week	Detail of Contents	Remarks
Plumbing Workshop	Aug.	Week 2- Week 3	6.1. Demonstration and Study of Plumbing Tools a. Identification and use of tools such as pipe wrench, pipe cutter, die, hacksaw, hammer, spanner etc.	
		Week 4 Week 5	6.2. Demonstration and Study of Pipes, Pipe Fittings and valves a. Identification of GI, PVC, PPR and HDPE pipes. b. Study of fittings such as elbows, tees, reducers, sockets, unions and bends etc.	
	Sep.	Week 1 Week 2	6.3. Pipe Cutting and Threading a. Cutting of GI pipes. b. Threading of pipes.	
		Week 3	6.4. Pipe Jointing a. Preparation of threaded pipe joints. b. Joining pipes using sockets, unions and couplings.	
		Week 4 Week 5	6.5. Demonstration of Water Supply Fixtures and Sanitary Fixtures a. Fixing of taps, stop valves, bib cocks and valves. b. Wash basin, sink, water closet and flushing system.	
	Oct.	Week 1 Week 2	6.6. Demonstration of Traps a. P-trap, S-trap, floor trap, gully trap and intercepting trap.	
		Week 3 Week 4 Week 5	6.7. Layout of cold and hot water supply for a bathroom a. Assembling and Disassembling of GI/PVC pipes as per given layout for a bathroom.	
	Nov.	Week 1	6.8. Demonstration of house drainage system (by Model)	
		Week 3	6.9. Demonstration of Septic Tank along with soak pit for 10 users	

Plumbing Workshop		Week 4 Week 5	6.10. Repair and Maintenance a. Leakage detection, replacement of washers and minor plumbing repairs.	
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Sh. Anurudh
Signature of Teacher


Sh. Swarn Singh
Foreman


Sh. Pankaj Kumar
Workshop Supdt.


Sh. Lekh Raj Sharma
H.O.D.(AS&H)

Govt. Polytechnic Kullu (H.P.)
Engineering Workshop Practices Planning

Branch : Civil Engineering

Subject : Engineering Workshops-II (Welding Workshop)

Teacher: Bhupinder , WSI Welding

Course Code: ES104

Semester: 1st

Session: Aug. - Nov. -2026

Scheme: N-2026

No. of Credits : 3(L:0,T:0,P:6)
 (Teaching Load)

Workshop	Month	Week	Detail of Contents	Remarks
Welding Workshop	Aug.	Week 2 Week 3	3.1 Safety Precautions of concerned shop and use of personal protective equipment (PPE), demonstration of tools, equipment, sample jobs, Best practices in the concerned shop.	
		Week 4 Week 5	3.2 Introduction and importance of welding process as compared to other material joining processes. Specifications and type of Arc welding machines, parts identification, classification, selection and coding of electrodes, welding parameters, welding joints and welding positions.	
	Sep.	Week 1 Week 2	Common weldable materials, safety precautions in welding shop, use of Personal Protective Equipment, Use of welding screens, Hazards and remedies during welding, Elementary symbolic representations, demo of tools, equipment, sample jobs prepared, set up of Gas welding apparatus, and welding defects. 3.3 Jobs to be prepared	
		Week 3 Week 4 Week 5	Job I Practice of striking arc and depositing uniform and straight beads on flat at different current levels. (Minimum 4 beads on M.S. flat at four setting of current level using shielded metal arc welding and differentiating their characteristics).	
		Week 1 Week 2	Job II Cut a job with abrasive cut off / chop saw machine and make a lap joint using shielded metal arc welding (SMAW) process.	
	Oct.			

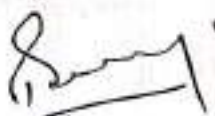
Welding Workshop		Week 3 Week 4	Job III Edge Preparation and welding butt joint using shielded metal arc / gas welding process.	
		Week 5	Job IV Edge Preparation and welding T Joint using shielded metal arc welding (100mmx 6 mm M.S. Flat).	
	Nov.	Week 1 Week 3	Job V Cut a job with abrasive cut off / chop saw machine & prepare T-pipe joint using gas/arc welding.	
		Week 4 Week 5	Job VI Prepare a job on Spot Welding.	



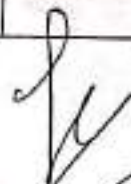
Sh. Bhupender Singh
Signature of Teacher



Sh. Swarn Singh
Foreman



Sh. Pankaj Kumar
Workshop Supdt.



Sh. Lekh Raj Sharma
H.O.D.(AS&H)

Govt. Polytechnic Kullu (H.P.)
Engineering Workshop Practices Planning

Branch : Civil Engineering

Semester: 1st

Subject : Engineering Workshops-II (Sheet Metal Workshop)

Session: Aug. - Nov. -2026

Teacher: Mr. X, WSI Sheet Metal

Scheme: N-2026

Course Code: ES104

No. of Credits : 3(L:0,T:0,P:6)
(Teaching Load)

Workshop	Month	Week	Detail of Contents	Remarks
Sheet Metal Workshop	Aug.	Week 2 Week 3	4.1 Safety Precautions of concerned shop and use of personal protective equipment (PPE), demonstration of tools, equipment, sample jobs, best practices in the concerned shop.	
		Week 4 Week 5	4.2 Demonstration of various power tools, apparatus, equipment, hand tools used in sheet metal shop.	
	Sep.	Week 1	4.3 Jobs to be prepared	
		Week 2	Job I Prepare a rectangular job 100*70mm involving different sheet metal operations like measuring, marking, snipping practice and filing etc. (at least 6 cuts of 70mm).	
		Week 3		
		Week 4		
		Week 5		
	Oct.	Week 1	Job II Prepare a seam joint by using hand tools on GI sheet.	
		Week 2		
		Week 3	Job III To prepare double riveted lap joint (zig-zag type) on GI sheet.	
		Week 4 Week 5	Job IV To prepare a single cover single riveted butt joint (chain type) on GI sheet.	
	Nov.	Week 1	Job V To fabricate a funnel of GI sheet using operations of shearing, flattening, and bending.	
		Week 3		
		Week 4 Week 5	Job VI To perform any one of sheet metal operation on swaging machine on job no.V like beading/swaging/crimping etc.	

Sh. Swarn Singh
Foreman

Sh. Pankaj Kumar
Workshop Supdt.

Sh. Lekh Raj Sharma
H.O.D.(AS&H)

Signature of Teacher

Govt. Polytechnic Kullu (H.P.)
Lesson Plan

Branch : Electrical Engineering

Semester : 1st

Subject : Engineering Workshops-II

Session : Aug. - Nov. -2026

Teacher : Pankaj Kumar

Scheme : N-2026

Subject Code: ES 104

Evaluation Scheme

Sr. No	Subject Name	Study scheme (Hrs/Week)		Credit	Marks in Evaluation Scheme			
					Internal Assessment		External Assessment	
		Th	Pr		Th	Pr	Th	Pr
1.	Engineering Workshops-II	-	6	3	-	50	-	100

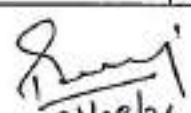
Course Outcomes (COs)

CO - 1	Identify tools, equipment and materials used in preparing jobs.
CO - 2	Take measurements with the help of basic measuring tools/equipment.
CO - 3	Select materials, tools, and sequence of operations to make a job as per given specifications /drawing.
CO - 4	Prepare simple jobs independently and inspect the same.
CO - 5	Use safety equipment and Personal Protection Equipment (PPE).
CO - 6	Maintain good housekeeping practices.

Teaching Plan

Workshop	Detail of Contents	Proposed Date	Remarks
Electronics Workshop	Introduction and demonstration of tools, equipment, electronics workshop specific safety precautions. Total 5 jobs to be prepared by the students.	These Workshops will be carried out as per the individual workshop teaching plan and approved rotation plan.	To be taught by Sh. Narender Kumar WSI (Electronics)
Computer Workshop	Introduction and demonstration of tools, equipment, computer workshop specific safety precautions. Other computer connectivity and peripheral devices		To be taught by Dr. Rigzin Angmo, Lect. Computer
Welding Workshop	Introduction and demonstration of tools, equipment, welding workshop specific safety precautions. Total 6 jobs to be prepared by the students.		To be taught by Sh. Bhupender Singh, WSI (Welding)


Swarn Singh
Foreman Instructor


01/08/26
Pankaj Kumar
Workshop Supdt.


Sh. Lakh Raj Sharma
HOD (AS&H)

ENGINEERING WORKSHOP ROTATION PLAN FOR SESSION Aug. - Nov. 2026

BRANCH: ELECTRICAL ENGINEERING

SEMESTER: 1ST

SUBJECT: ENGINEERING WORKSHOPS-II

GROUP 1 & GROUP 2						
SR. NO.	MONTH	Proposed DATES	ELECTRONIC S W/SHOP	COMPUTER W/SHOP	WELDING W/SHOP	REMARKS Actual Dates
1	AUG. SEP. OCT. NOV.	10, 17, 24, 31 7, 14, 21, 28 5, 12, 19, 26 17, 25	GROUP A	GROUP B	GROUP C	
2	AUG. SEP. OCT. NOV.	11, 18, 25 1, 8, 15, 22, 29 6, 13, 21 9, 18	GROUP C	GROUP A	GROUP B	
3	AUG. SEP. OCT. NOV.	12, 19, 26 2, 9, 16, 23, 30 7, 14, 21 10, 23	GROUP B	GROUP C	GROUP A	

GROUP A : ROLLNO 1-17

GROUP B : ROLLNO 18-34

GROUP C : ROLLNO 35-51



Sh. Swarn Singh
FOREMAN INSTRUCTOR



Sh. Pankaj Kumar
WORKSHOP SUPDT.

Govt. Polytechnic Kullu (H.P.)
Engineering Workshop Practices Planning

Branch : Electrical Engineering

Subject : Engineering Workshops-II(Electronics Workshop)

Teacher: Narender Kumar , WSI Electronics

Course Code: ES104

Semester: 1st

Session: Aug. - Nov. -2026

Scheme: N-2026

No. of Credits : 3(L:0,T:0,P:6)
 (Teaching Load)

Workshop	Month	Week	Detail of Contents	Remarks
Electronics Workshop	Aug.	Week 3	1.1 Safety, Tools & Equipment a. Safety precautions to be observed in the Electronics Shop b. Identification and use of common workshop hand tools: pliers, wire strippers, c. Cutters, screwdrivers, crimping tools, connectors, heat gun etc. d. Familiarization with equipment's: Multimeter, Function Generator, Power Supply, Oscilloscope and Counters.	
		Week 4	1.2 Components Identification and Testing a. Active and Passive components	
		Week 5	b. Analog and Digital ICs c. Connectors, switches, relays, cables etc.	
	Sep.	Week 1	1.3 Soldering & De- Soldering Practices a. Soldering/Desoldering safety procedure.	
		Week 2	b. Use of soldering iron, Desoldering pump, hot air station c. Practice on PCBs: soldering resistors, ICs, connectors d. Desoldering and Rework technique	
		Week 3	1.4 PCB Basics and Assembly a. Types of Printed Circuit Board b. Assembling simple circuits on General Purpose PCB	
		Week 4 Week 5	1.5 Introduction to Artificial Intelligence a. Role of AI in Electronics Engineering b. Introduction to basic AI tools like Chat Gpt, Canva, Perplexity, Google Gemini c. and their use by using text prompt (any two).	
	Oct.	Week 1	1.6 Jobs to be performed	
		Week 2	Job I - Practice on the use of workshop hand tools and instruments. (Brief Write up)	

Electronics Workshop		Week 3	Job II - Testing & Identification of Resistor, Inductor, Capacitor, Diode & Transistor. (Brief Write up)	
		Week 4 Week 5	Job III -Practice Soldering and Desoldering. (Brief Write up)	
	Nov.	Week 1 Week 3	Job IV - Design and testing of a simple electronic circuit on a General purpose PCB.	
		Week 4 Week 5	Job V - Practice using text prompts to perform basic tasks such as generating explanation creating simple designs and searching technical information using any AI tool.	



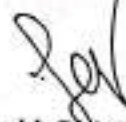
Sh. Narender Kumar
Signature of Teacher



Sh. Swarn Singh
Foreman



Sh. Pankaj Kumar
Workshop Supdt.



Sh. Lekh Raj Sharma
H.O.D.(AS&H)

Govt. Polytechnic Kullu (H.P.)
Engineering Workshop Practices Planning

Branch : Electrical Engineering

Subject : Engineering Workshops-II(Computer Workshop)

Teacher: Sr. Rigzin Angmo, Lect. Computer Engg.

Course Code: ES104

Semester: 1st

Session: Aug. - Nov. -2026

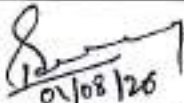
Scheme: N-2026

No. of Credits : 3(L:0,T:0,P:6)
 (Teaching Load)

Workshop	Month	Week	Detail of Contents	Remarks
Computer Workshop	Aug.	Week 3	2.1 Workplace Safety and Safe Equipment Handling a. Workplace Safety: Importance of workplace safety; basic safety practices in a computer workshop; safe handling of computer hardware and electronic components. b. Electrical safety: common electrical hazards, safe use of power cables, extension boards and sockets, proper earthing, precautions while assembling or disassembling computer systems. c. Electrostatic discharge (ESD) protection: causes of static electricity, use of antistatic wrist straps and mats, safe handling of sensitive components.	
		Week 4 Week 5	d. Ergonomic practices while using computers: proper posture, placement of monitor, keyboard and mouse, prevention of eye strain. e. Fire and emergency safety: basic fire hazards, use of fire extinguishers and basic first-aid awareness. f. General workshop discipline: maintaining a clean workspace, proper cable management and safe storage of tools and components.	
	Sep.	Week 1 Week 2	2.2 Identification of Tools, Components and Peripheral Devices Common tools used in a computer workshop: Phillips and flat-head screwdrivers, needle-nose pliers, tweezers, parts grabber, flashlight, vacuum/ blower cleaner, anti-static wrist strap and mat, crimping tool, LAN cable tester, and multimeter.	
		Week 3 Week 4	2.3 Common ports and peripheral devices: VGA, DVI, HDMI, USB,	

		Week 5	Ethernet (RJ-45), audio ports, SD card slot; Peripheral devices - keyboard, mouse, monitor, printer, scanner, webcam, speakers, Microphone, external storage devices, and network adapters.
	Oct.	Week 1 Week 2 Week 3	2.4 Internal components of a computer system: Motherboard, Processor (CPU), RAM modules, ROM/BIOS chip, chipset, expansion slots (PCI/PCIe), storage devices (HDD/SSD), optical drive, power supply unit (SMPS), heat sink and cooling fan, CMOS battery, internal cables and connectors (SATA and power connectors).
		Week 4 Week 5	3 Assembling/ Disassembling a Computer System Opening the system cabinet; installation and removal of CPU, RAM, storage devices (HDD/SSD), SMPS and expansion cards; connecting internal power and data cables; reassembling the system and verifying proper connections.
	Nov.	Week 1 Week 3	4 Installing and Configuring OS & Application Software OS installation using bootable media; disk partitioning and file systems; basic system configuration (date/time, user accounts, device settings); installation of device drivers. Installation, updating and uninstalling common application software such as office applications, web browsers, PDF readers, antivirus software and file compression utilities.
		Week 4 Week 5	5 Connecting to a Network Connecting a computer system to a wired LAN and Wi-Fi network. Identification of networking devices such as modem, router and switch. Configuration of basic network settings such as IP address, proxy server and DNS. Basic troubleshooting of network connectivity.


 Dr. Rigzin Angmo
 Signature of Teacher


 Sh. Pankaj Kumar
 Workshop Supdt.


 Sh. Lekh Raj Sharma
 H.O.D.(AS&H)

Govt. Polytechnic Kullu (H.P.)
Engineering Workshop Practices Planning

Branch : Electrical Engineering

Semester: 1st

Subject : Engineering Workshops-II (Welding Workshop)

Session: Aug. - Nov. -2026

Teacher: Bhupinder , WSI Welding

Scheme: N-2026

Course Code: ES104

No. of Credits : 3(L:0,T:0,P:6)
 (Teaching Load)

Workshop	Month	Week	Detail of Contents	Remarks
Welding Workshop	Aug.	Week 3	3.1 Safety Precautions of concerned shop and use of personal protective equipment (PPE), demonstration of tools, equipment, sample jobs, Best practices in the concerned shop.	
		Week 4 Week 5	3.2 Introduction and importance of welding process as compared to other material joining processes. Specifications and type of Arc welding machines, parts identification, classification, selection and coding of electrodes, welding parameters, welding joints and welding positions.	
	Sep.	Week 1 Week 2	Common weldable materials, safety precautions in welding shop, use of Personal Protective Equipment, Use of welding screens, Hazards and remedies during welding, Elementary symbolic representations, demo of tools, equipment, sample jobs prepared, set up of Gas welding apparatus, and welding defects. 3.3 Jobs to be prepared	
		Week 3 Week 4 Week 5	Job I Practice of striking arc and depositing uniform and straight beads on flat at different current levels. (Minimum 4 beads on M.S. flat at four setting of current level using shielded metal arc welding and differentiating their characteristics).	
		Week 1 Week 2	Job II Cut a job with abrasive cut off / chop saw machine and make a lap joint using shielded metal arc welding (SMAW) process.	
	Oct.			

Welding Workshop		Week 3 Week 4	Job III Edge Preparation and welding butt joint using shielded metal arc / gas welding process.
		Week 5	Job IV Edge Preparation and welding T Joint using shielded metal arc welding (100mmx 6 mm M.S. Flat).
	Nov.	Week 1 Week 3	Job V Cut a job with abrasive cut off / chop saw machine & prepare T-pipe joint using gas/arc welding.
		Week 4 Week 5	Job VI Prepare a job on Spot Welding.



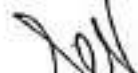
Sh. Bhupender Singh
Signature of Teacher



Sh. Swarn Singh
Foreman



Sh. Pankaj Kumar
Workshop Supdt.



Sh. Lekh Raj Sharma
H.O.D.(AS&H)

Govt. Polytechnic Kullu (H.P.)
Lesson Plan

Branch : Automobile Engineering
Subject : Engineering Workshops-I
Teacher : Pankaj Kumar
Subject Code: ES 105

Semester: 1st
Session: Aug. - Nov. -2026
Scheme: N-2026

Evaluation Scheme

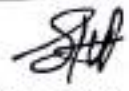
Sr. No	Subject Name	Study scheme (Hrs/Week)		Credit	Marks in Evaluation Scheme			
					Internal Assessment		External Assessment	
		Th	Pr		Th	Pr	Th	Pr
1.	Engineering Workshops -I	-	6	3	-	50	-	100

Course Outcomes (COs)

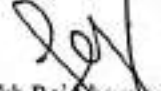
CO - 1	To understand basic engineering processes for manufacturing and assembly.
CO - 2	To understand, identify, select and use various marking, measuring, and holding, striking and cutting tools and equipment's.
CO - 3	To understand and interpret job drawings, produce jobs, and inspect the job for specified dimensions.
CO - 4	To understand the various types of wiring systems and acquire skills in house wiring.
CO - 5	To understand, operate, control different machines and equipment's adopting safety practices.

Teaching Plan

Workshop	Detail of Contents	Proposed Date	Remarks
Electrical Workshop	Introduction and demonstration of tools, equipment, electrical workshop specific safety precautions. Total 7 jobs to be prepared by the students.	These Workshops will be carried out as per the individual workshop teaching plan and approved rotation plan.	To be taught by Sh. Narender Kumar WSI (Electronics)
Fitting Workshop	Introduction and demonstration of tools, equipment, fitting workshop specific safety precautions. Total 7 jobs to be prepared by the students.		To be taught by Sh. Anurudh WSI (Fitting)
Carpentry Workshop	Introduction and demonstration of tools, equipment, carpentry workshop specific safety precautions. Total 7 jobs to be prepared by the students.		To be taught by Sh. Swarn Singh, Foreman Instructor


Swarn Singh
Foreman Instructor


Pankaj Kumar
Workshop Supdt.


Sh. Lekh Raj Swarn
HOD (AS&H)

ENGINEERING WORKSHOP ROTATION PLAN FOR SESSION Aug. - Nov. 2026

BRANCH: AUTOMOBILE ENGINEERING

SEMESTER: 1ST

SUBJECT: ENGINEERING WORKSHOPS-I

GROUP 1 & GROUP 2

SR. NO.	MONTH	Proposed DATES	CARPENTRY W/SHOP	FITTING W/SHOP	ELECTRICAL W/SHOP	REMARKS Actual Dates
1	AUG.	12, 19, 26	GROUP A	GROUP B	GROUP C	
	SEP.	8, 15, 22, 29				
	OCT.	6, 13, 21, 28				
	NOV.	17, 25				
2	AUG.	13, 20, 27.	GROUP C	GROUP A	GROUP B	
	SEP.	9, 16, 23, 30				
	OCT.	7, 14, 22, 29				
	NOV.	18, 26,				
3	AUG.	11, 18, 25	GROUP B	GROUP C	GROUP A	
	SEP.	3, 10, 17, 24				
	OCT.	1, 8, 15, 27				
	NOV.	12, 19				

GROUP A : ROLLNO 1-17

GROUP B : ROLLNO 18-34

GROUP C : ROLLNO 35-51



Sh. Swarn Singh
FOREMAN INSTRUCTOR



Sh. Pankaj Kumar
WORKSHOP SUPDT.

Govt. Polytechnic Kullu (H.P.)
Engineering Workshop Practices Planning

Branch : Automobile Engineering

Subject : Engineering Workshops - I (Carpentry Workshop)

Teacher: Swarn Singh , Foreman Instructor

Course Code: ES105

Semester: 1st

Session: Aug. - Nov. -2026

Scheme: N-2026

No. of Credits : 3(L:0,T:0,P:6)
 (Teaching Load)

Workshop	Month	Week	Detail of Contents	Remarks
Carpentry Workshop	Aug.	Week 3	3.1 Safety Precautions of concerned shop and use of personal protective equipment (PPE), demonstration of tools, equipment, sample jobs, Best practices in the concerned shop. 3.2 Introduction and industrial applications of carpentry jobs. 3.2.1 Name and use of raw materials used in carpentry shop: wood & alternative Materials (board, plywood) 3.2.2 Introduction to wood, timber and their identification, shapes and specifications, their properties, applications & defects. Study of the joints in roofs, doors, windows and furniture, seasoning of wood 3.2.3 Names, uses, and types of hand tools such as Saws, C-Clamp, Chisels, Mallets, Carpenter's vices, Marking gauges, Try-squares, Rulers and other commonly used tools and materials used in carpentry shop by segregating as cutting tools, supporting tools, holding tools, measuring tools etc.	
		Week 4	3.2.4 Specification of iron jack plane used in carpentry shop. 3.3 Practice 3.3.1 Practices for Basic Carpentry Work 3.3.2 Sawing practice using different types of saws	

Carpentry Workshop		Week 5	3.3.3 Assembling jack plane — planning practice including sharpening and blade adjustment of jack plane cutter.
	Sep.	Week 1	3.3.4 Chiselling practice using different types of chisels including sharpening of chisel.
		Week 2	3.3.5 Making of different types of wooden pin and fixing methods. Marking, measuring and inspection of jobs.
		Week 3	3.3.6 Housekeeping practices and instructions. Introduction to joints, their relative advantages and uses.
		Week 4	3.4 Jobs to be Prepared Job 1 Prepare a rectangular wooden block involving operations like Marking, sawing practice, planning to size, chiselling. (at least two cuts of 70mm).
		Week 5	
	Oct.	Week 1	Job II To prepare a Half Lap Joint (cross, L or T – any one).
		Week 2	Job III To prepare a Mortise and Tenon joint (T-Joint).
		Week 3	
		Week 4	Job IV To prepare a Dove tail Joint (Half lap dovetail joint).
		Week 5	
	Nov.	Week 1	Job V To prepare a mitre joint.
		Week 3	Job VI To prepare a lengthening joint (scarf, dovetail scarf, tabled scarf- any one).
		Week 4	
		Week 5	Job VII Painting/Polishing practice on any one of above job.

Sh. Swarn Singh
Signature of Teacher

Sh. Swarn Singh
Foreman

Sh. Pankaj Kumar
Workshop Supdt.

Sh. Lekh Raj Sharma
H.O.D.(AS&H)

Govt. Polytechnic Kullu (H.P.)
Engineering Workshop Practices Planning

Branch : Automobile Engineering

Semester: 1st

Subject : Engineering Workshops-I (Fitting Workshop)

Session: Aug. - Nov. -2026

Teacher: Anurudh , WSI Fitting

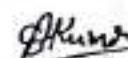
Scheme: N-2026

Course Code: ES105

No. of Credits : 3(L:0,T:0,P:6)
 (Teaching Load)

Workshop	Month	Week	Detail of Contents	Remarks
Fitting Workshop	Aug.	Week 3	1.1 Safety Precautions of concerned shop and use of personal protective equipment (PPE), demonstration of tools, equipment, sample jobs, Best practices in the concerned shop.	
			1.2 Introduction and Function of holding/ clamping devices, hand tools and cutting tools,	
			1.3 Practical applications of fitting.	
		Week 4	1.4 Introduction, function and types of marking and measuring tools and instruments (surface plate, try square, caliper, steel rule, scribe and Vernier caliper, Micrometer)	
			1.5 Identification of materials. (Iron, Copper, Stainless Steel, Aluminum etc.) and Identification of various steel sections (flat, angle, channel, bar etc.).	
		Week 5	1.6 Introduction to various types of threads (internal and external)	
			1.7 Description and demonstration of various types of tools in tapping & dieing process like drills, taps and dies.	
	Sep.	Week 1	1.8 Handling of measuring instruments. Use of dial gauges and feeler gauges, file and make angle, surfaces (Bevel gauge accuracy 1 degree) make simple open and sliding fits, Inside square fit, make combined open and sliding fit, straight sides	
		Week 2	1.9 Introduction to various types of threads (internal and external)-single	

Fitting Workshop		Week 3	start, multistart, left hand and right hand threads.
		Week 4	1.10 Description and demonstration of various types of drills, taps and dies. Selection of dies for threading, selection of drills, taps and reamers for tapping operations.
		Week 5	1.11 Precautions while drilling soft metals, e.g. copper, brass, aluminium etc.
		Week 4	1.12 Jobs to be prepared:
		Week 5	Job I To fit hacksaw blade in its frame and perform hacksawing operation by using marking tool and straight hacksawing practice on MS workpiece (50*50*6mm). (at least three cuts of length 25mm)
	Oct.	Week 1 Week 2	Job II To perform filing on MS workpiece (50*50*6mm) for giving it a perfect square shape within accuracy of $\pm 1\text{mm}$.
		Week 3	Job III To perform drilling, reaming and tapping operation on Mild Steel Flat on Job No. II.
		Week 4 Week 5	Job IV Make external thread on MS round and assemble it on Job No. III.
	Nov.	Week 1	Job V Radius form filing of different radius on any two corners of Job No. II.
		Week 3 Week 4	Job VI To make assembly of V shape fit within Bevel gauge accuracy $\pm 1^\circ$.
		Week 5	Job VII Making external thread on a pipe by using die and make a GI pipe connection using nipple and socket.


Sh. Anurudh
Signature of Teacher


Sh. Swarn Singh
Foreman


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Engineering Workshop Practices Planning

Branch : Automobile Engineering

Subject : Engineering Workshops-I (Electrical Workshop)

Teacher: Narender Kumar, WSElectronics

Course Code: ES105

Semester: 1st

Session: Aug. - Nov. -2026

Scheme: N-2026

No. of Credits : 3(L:0,T:0,P:6)
(Teaching Load)

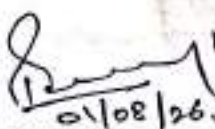
(Teaching Load)

Workshop	Month	Week	Detail of Contents	Remarks
Electrical Workshop	Aug.	Week 3	2.1 Safety Precautions of concerned shop and use of personal protective equipment (PPE), demonstration of tools, equipment, sample jobs, best practices in the concerned shop.	
		Week 4	2.2 Demonstration and identification of common electrical materials with standard ratings and specifications such as wires, cables, switches, MCB & ELCB, fuses, cleats, clamps and allied items, tools and accessories.	
		Week 5	2.3 Identification of phase, Neutral and Earth wires for connection to domestic electrical appliances and their connections to three pin plugs. Difference between series and parallel wiring.	
	Sep.	Week 1	2.4 Introduction to single phase and three phase supply and wiring system. Importance of three phase supply (RYB) and its sequence and wiring system. Estimating and costing of power consumption.	
		Week 2		
		Week 3		
		Week 4		
		Week 5		
	Oct.	Week 1	Job I Use of Multimeter, test lamp and line tester to check voltage, continuity, open/short and polarity in simple lamp and socket circuits. Read out current, voltage and electrical power at different loads using various measuring devices of different ranges. Job II Connecting single phase energy meter with supply and load and working out power consumption and cost of energy. Job III Measure total voltage and total capacity/current of batteries by connecting two or three batteries in series and parallel. Test the battery with hydrometer and cell tester.	
		Week 2		
Week 3				
		Week 4		

Electrical Workshop		Week 5	Job IV Assemble and internally wire a single-phase main DB with main switch/MCB, bus-bars and at least five outgoing lighting/fan circuits with appropriate protection.
	Nov.	Week 1	Job V Carrying out house wiring circuits using fuse, switches, sockets, ceiling rose etc. in batten or P.V.C. casing-capping. Demo of conduit wiring through junctions.
		Week 3 Week 4	Job VI Studying internal wiring diagram, dismantle, diagnose fault, servicing and reassembling of common domestic electrical appliances like ceiling fan, auto electric iron, air cooler etc.
		Week 5	Job VII Connection of single phase and three phase motors by using starter. Reversing direction of rotation of single-phase motors.


Sh. Narender Kumar
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01/08/26.
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