



**UNIVERSITY OF IBADAN,
IBADAN, NIGERIA
FACULTY OF TECHNOLOGY
TECHNICAL SUPPORT UNIT
TSU INFORMATION LEAFLET**



**FIRST EDITION
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STAFF



**Professor A.I, Bamgboye
Dean of Faculty**



**Professor Yahaya Mijinyawa
Chairman of TSU
+2348067113661**



**Olarinre. B
Principal Engineering
Technologist,
{Machine Shop} and
Head of TSU**



**Muili M.A
Senior Engineering
Technologist
{Wood Workshop}**



**Emmanuel S.O
Senior Engineering
Technologist
{Foundry Workshop}**



**Oyebamiji. J.A
Technologist II
{Metal Fitting Workshop}**



**Salako, P.O.
Assistant Technologist
{Electrical Rewinding}**



**Oni, J. T
Assistant Technologist
{Machine Workshop}**

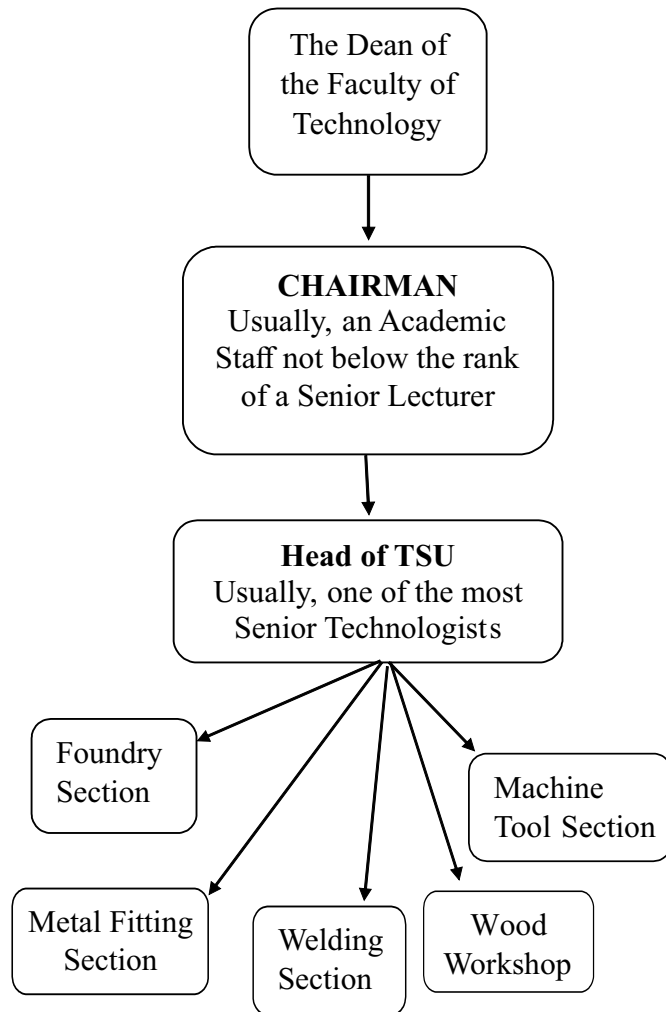


**Ademola, D
Technical Assistant
Wood Workshop**



**Obidele. S.O
Technical Assistant
{Welding Workshop}**

ORGANOGRAM



BRIEF HISTORY AND FUNCTIONS

The Technical Support Unit (TSU) was one of the components of the Institute of Applied Science and Technology which came into being during the 1972/1973 academic session and was transformed into the present Faculty of Technology in July 1975.

The functions of the Unit at inception which have remained unchanged are as follows

- a) Provision of teaching facilities and assistance for the following faculty courses
 - i) TME 121: Basic Workshop Practice
 - ii) TME 221: Workshop Practice I
 - iii) TME 312: Workshop Practice II
- b) Support for the Faculty's teaching programmes through repair, modification and/or production of teaching aids
- c) Assistance to both undergraduate and postgraduate students in the completion of practical assignments
- d) Co-operation with other faculties and departments by offering Wood Work expertise, machine and sheet metal shop assistance.

At inception the Unit had the following sections

- i) Metal Machine Shop with a small dimensional meteorology as an integral part of the section
- ii) Electrical section
- iii) Carpentry and Wood Machine section
- iv) Sheet metal fabrication and welding shop
- v) The Fitting Section
- vi) Central Stores.

Since inception, there have been restructuring of the various sections in order to improve the efficiency of the Unit. As at 2023, the Unit has the following Sections

- a) The Foundry Section
- b) The Machine Tools Section
- c) The Metal Fitting Section
- d) The Welding Workshop
- e) The Wood Workshop

At inception, the Technical Support Unit was primarily expected to cater for the students in the Faculty who were very few then. Over the years, the student enrolment in the Faculty and whom the Technical Support Unit is expected to cater for has not only increased but the Unit now caters for students of other Departments outside the Faculty as shown in the Table 1 for the 2018/2019; 2020/2021 and 2021/2022 academic sessions, recalling that the 2019/2020 was cancelled

Table 1: Statistics on Students Catered for by the Technical Support Unit during the 2018/2019 , 2020/2021 and 2021/2022 Academic Sessions

S/N	Department	Number of Registered Students					
		2018/2019		2020/2021		2021/2022	
		TME 121	TME 221	TME 121	TME 221	TME 121	TME 221
1	Chemistry	1	0	0	0	0	0
2	Education	4	0	0	0	0	0
3	Mathematics	1	0	0	0	1	0
4	Physics	56	0	58	0	63	0
	Sociology	0	0	0	0	0	1
5	Agricultural and Environmental Engineering	46	36	55	42	54	38
6	Civil Engineering	50	42	55	50	58	60
7	Electrical and Electronics Engineering	44	54	42	49	59	52
8	Food Technology	30	41	56	29	42	36
9	Industrial and Production Engineering	52	44	60	48	59	59
10	Mechanical Engineering	41	52	43	52	60	51
11	Petroleum Engineering	43	1	52	0	56	0
12	Wood Products Engineering	33	22	39	29	32	33
		401	292	460	299	484	330

SECTIONS AND BASIC INFORMATION

1. FOUNDRY SECTION

WHAT THE STUDENTS LEARN

- ▶ Students are introduced to the various machines and hand tools available by knowing their names and functions; methods of operation and maintenance methods
- ▶ They are taught about Workshop Safety for the protection of both the persons working in the workshop and machines being used.
- ▶ They are taught about the importance of cleanliness in a workshop
- ▶ They are taught about workshop management and organization which include proper arrangement of tools and adequate spaces between machines that are fixed so as to allow free movement.
- ▶ They are taught how to use the Fire Extinguisher in the event of fire outbreak
- ▶ They are introduced to the First Aid Box in case of accident so that attention can be given to the victim before being taken to the University Health Service (Jaja Clinic)
- ▶ They are taught about equipment maintenance which include preventive, corrective and shut-down and minor repairs.
- ▶ They are taught how to use the machines and participate in using the machines to do the following:
 - i) Preparation of green sand to form moulds
 - ii) Making of mould to cast various machine parts and simple tools.
 - iii) Melting of metal at various temperatures

- iv) Forming of alloys and composites
- v) Fettling/finishing of casting using files, hacksaw and grinder.

MACHINES AVAILABLE

The following machines are available in the Section

- i) Rotary Furnace
- ii) Wayne Furnace
- iii) Various Hand Tools

2. MACHINE TOOLS SECTION

WHAT THE STUDENTS LEARN

- ▶ Students are introduced to the various machines and hand tools available by knowing their names and functions; methods of operation and maintenance methods
- ▶ They are taught about Workshop Safety for the protection of both the persons working in the workshop and machines being used.
- ▶ They are taught about the importance of cleanliness in a workshop
- ▶ They are taught about workshop management and organization which include proper arrangement of tools and adequate spaces between machines that are fixed so as to allow free movement.
- ▶ They are taught how to use the Fire Extinguisher in the event of fire outbreak
- ▶ They are introduced to the First Aid Box in case of accident so that attention can be given to the victim before being taken to the University Health Service (Jaja Clinic)

- ▶ They are taught about equipment maintenance which include preventive, corrective and shut-down and minor repairs
- ▶ At the end of practical exercise, students should be able to:
 - i) Operate the Drilling and Lathe machines to produce holes on components
 - ii) Operate the Lathe Machine to produce shafts, pins and taper components
 - iii) Use the Lathe Machine to make metric threads of various specifications
 - iv) Operate the Milling Machine to generate flat surfaces and create slots
 - v) Know when and how to apply cutting fluid for different machining operations.

MACHINES AVAILABLE

The following machines are available in the Section

- 1 Industrial Lathe Machine
- 2 Bridgeport Universal Milling Machine
- 3 Harrison M300 Centre Lathe Machine
- 4 Colchester Student Lathe
- 5 Excello Vertical Milling Machine

- 6 Simple Surface Grinder
- 7 Harrison M300 Centre Lathe
- 8 Harrison MH300 Copy Lathe
- 9 3 - Phase Arch Welding Machine
- 10 Sheet Metal Rolling Machine
- 11 Computerized Numerical Control Turning Centre
- 12 Myford Table Lathe
- 13 Surface Grinding Machine
- 14 Folding Machine
- 15 Radial Arm Drilling Machine {Pillar}
- 16 Pedestal Grinder
- 17 Proser Giant Pedestal Grinder
- 18 Table Top Drilling Machine
- 19 Computerized Numerical Control Milling Machine
- 20 Various Hand Tools

3. METAL FITTING SECTION

WHAT THE STUDENTS LEARN

- ▶ Students are introduced to the various machines and hand tools available by knowing their names and functions; methods of operation and maintenance methods
- ▶ They are taught about Workshop Safety for the protection of both the persons working in the workshop and machines being used.

- ▶ They are taught about the importance of cleanliness in a workshop
- ▶ They are taught about workshop management and organization which include proper arrangement of tools and adequate spaces between machines that are fixed so as to allow free movement.
- ▶ They are taught how to use the Fire Extinguisher in the event of fire outbreak
- ▶ They are introduced to the First Aid Box in case of accident so that attention can be given to the victim before being taken to the University Health Service (Jaja Clinic)
- ▶ They are taught about equipment maintenance which include preventive, corrective and shut-down and minor repairs
- ▶ At the end of the practical session, the students would have learnt and be able to use the equipment and hand tools in making machine components such as male and female component, square component,

MACHINES AVAILABLE

The following machines are available in the Section

- 1 Band Saw
- 2 60-Ton Hydraulic Press
- 3 Sensitive Drilling Machine
- 4 Electric Pallet Truck
- 5 Pillar Drilling Machine
- 6 Dilling Machine

4. WELDING SECTION

WHAT THE STUDENTS LEARN

- ▶ Students are introduced to the various machines and hand tools available by knowing their names and functions; methods of operation and maintenance methods
- ▶ They are taught about Workshop Safety for the protection of both the persons working in the workshop and machines being used.
- ▶ They are taught about the importance of cleanliness in a workshop
- ▶ They are taught about workshop management and organization which include proper arrangement of tools and adequate spaces between machines that are fixed so as to allow free movement.
- ▶ They are taught how to use the Fire Extinguisher in the event of fire outbreak
- ▶ They are introduced to the First Aid Box in case of accident so that attention can be given to the victim before being taken to the University Health Service (Jaja Clinic)
- ▶ They are taught about equipment maintenance which include preventive, corrective and shut-down and minor repairs .
- ▶ They are taught how to use the machines and participate in using the machines to do the following:
 - i) Dimensioning of work pieces with measuring tape
 - ii) Joining of work pieces with arc welding machine
 - iii) Cutting of work pieces with hack saw

- iv) Grinding of work pieces with angle grinder
- v) Drilling of holes with Pillar Drilling Machine
- vi) Cutting of sheet metals with shear cutter
- vii) Folding and bending of work pieces into different shapes and sizes using machine
- viii) Rolling of work pieces into cylindrical shapes

MACHINES AVAILABLE

The following machines are available in the Section

- 1 Welding Machines
- 2 Angle Grinder
- 3 Hand Drilling Machine
- 4 Hand Mill
- 5 Table Vice
- 6 Welding Generator
- 7 Pillar Grinder
- 8 Pillar Drilling Machine
9. Mig Welding Machine
- 10 Various Hand Tools

5. WOOD WORKSHOP

WHAT THE STUDENTS LEARN

- ▶ Students are introduced to the various machines and hand tools available by knowing their names and functions; methods of operation and maintenance methods
- ▶ They are taught about Workshop Safety for the protection of both the persons working in the workshop and machines being used.
- ▶ They are taught about the importance of cleanliness in a workshop
- ▶ They are taught about workshop management and organization which include proper arrangement of tools and adequate spaces between machines that are fixed so as to allow free movement.
- ▶ They are taught how to use the Fire Extinguisher in the event of fire outbreak
- ▶ They are introduced to the First Aid Box in case of accident so that attention can be given to the victim before being taken to the University Health Service (Jaja Clinic)
- ▶ They are taught about equipment maintenance which include preventive, corrective and shut-down and minor repairs
- ▶ They are also taught and where possible participate in the following:
 - i) Methods of identification and properties of various wood species.
 - ii) Types of defects in woods and methods of identification.

- iii) Wood seasoning, conversion and preservation
- iv) The different types of joints in wood work
- v) The various carpentry operations

MACHINES AVAILABLE

The following machines are available in the Section

- 1 Circular Sawing Machine
- 2 Combined Thicknessing and Surface Planing Machine
- 3 Grinding Machine
- 4 Wood Mortising Machine
- 5 Wood Surface Planing Machine
- 6 Wood Narrow Band Sawing Machine
- 7 Drilling Machine
- 8 Thicknessing Machine
- 9 Circular Sawing Machine
- 10 Surface Planing Machine
- 11 Wood Turning Lathe Machine
- 12 Various Hand Tools

SERVICES AVAILABLE

The Technical Support Unit is capable and available to provide the following services to any individual or organization at a cheap rate

- ▶ Production of all kinds of furniture such as Upholstery Chairs; Book Cabinets; Office Tables and Chairs; HDF Door Frames; Wooden Door Frames; HDF Flush Doors; Wooden Flush Doors; Kitchen Cabinets and Wardrobes.
- ▶ Fabrication of Engineering Components such as Male and Female Components.
- ▶ General Welding; Fabrication and Installation of Bill Boards; Burglary Proofs and Doors; Fabrication and Installation of Roof Trusses; Fabrication of Components and Machines; Installation of Aluminum Roofing Sheet and General Products
- ▶ Casting and Repairs of Aluminum pots; Casting of gear Blank; Pulley Blank; Bearing Housing and Machine Parts
- ▶ Machining of Bushing; Shafts; Gear Blank; Pulleys; Spur Gears; Cutting Screw Thread both Internal and External; Fabrication and Assembly of Machine Parts.

For Details, Contact
The Chairman,
Technical Support Unit,
Faculty of Technology,
University of Ibadan