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*Working with Timber* is a regional Pacific project commissioned by The Commonwealth of Learning.

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## Credits

The idea of a Basic Trades programme was originally proposed at the PATVET Institute in 2002 and then explored and documented at a workshop held in Suva, Fiji in June 2003. This workshop involved ideas and input from representatives of mainly smaller island nations in PATVET:

Kiribati	Taeboa Tabanga
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Tuvalu	Lapana Ene
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Students and staff at Fiji Institute of Technology

## The Tutor guide

This Tutor's guide will help you lead students through this course. It contains teaching material, resources, and suggestions on how to use them.

## What is this course for?

This course is a basic introduction to working with timber, tools and plans. It helps students to:

- think about some of the good and bad things about different timbers and how to choose the right timber for a job.
- practise use simple tools to make basic joints and frames.

The course looks at timber used in building construction rather than the finer work in cabinet making. The focus is on 'western' style construction rather than traditional or custom building methods.

Students will work with timber that is available locally and will use common, simple hand-tools.

The course is written for school leavers and community groups who have limited knowledge of choosing and working with timber.

Students who complete this course may be able to work on simple projects on their own. They will still need to work under supervision for more complex construction - such as those involving structural work, safety or compliance with building standards.



# What does the course cover?

*Working with Timber* covers four topics which are taught as separate modules:



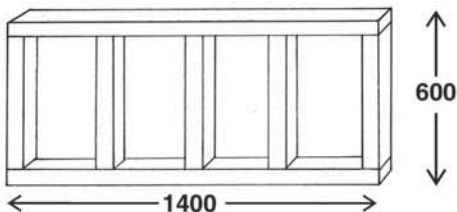
## Choosing timber

Students learn about timber — where their timber comes from and the good and bad things about different timbers. They identify the types of timber available and choose suitable timber for a job.



## Using woodworking tools

Students identify basic woodworking tools and their parts, choose the best tool for a job and learn how to use the tools correctly for simple jobs. The range covers: measuring & marking tools, saws, hammers, chisels, drills, clamps & vices.



## Measurement and plans

Students read and interpret basic plans. They take basic measurements, measure and mark out timber. They work out quantities and costs.



## Joining timber

Students learn to identify common timber joints, choose the correct joint for a job, make simple joints correctly and choose the correct fixings. The range covers: butt, housing and lap joints, nails, screws & bolts.

## How is the course put together?

The course is a basic introduction for people who know little about timber or simple woodworking tools.

The course **must** be led by a tutor or experienced trades person who can show students how to use tools correctly and guide them on their developing skills.

The course will work best with small groups of students who can talk about things and learn from each other.

The course is packaged in four parts:

- This Tutor guide
- Student workbook
- Worksheets for tools and joints
- A video tape

Here is some information on each part:

### Tutor guide

The *Tutor guide* gives you an outline lesson plan for each session. This gives you a planned order for the things you need to talk about, explain and demonstrate. It also gives questions and activities — and practice — for students.

Note that you will need to have a copy of the student workbook open as you work through each session. The material in both books is linked together, but the workbook material is not fully repeated in the Tutor guide.

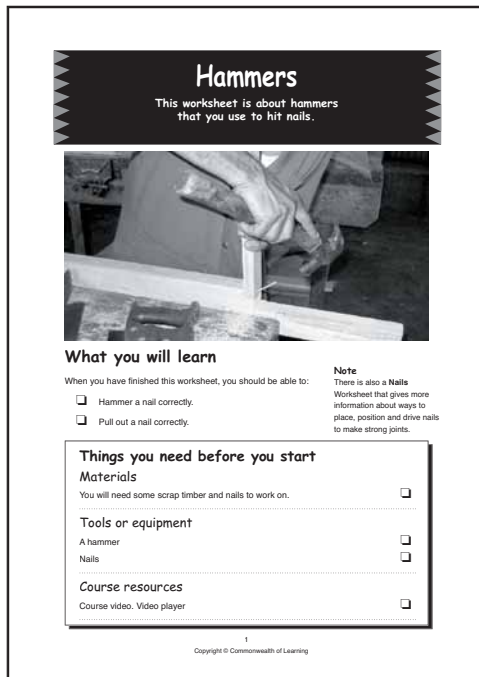
Module 2, *Using Woodworking Tools*, and Module 4, *Joining Timber*, use a worksheet for each tool, joint and fixing. The Tutor guide contains introductory material and tutor guidance for each module and a copy of each worksheet.

### Student workbook

The *workbook* contains exercises, illustrations and explanations for students as well as space to make their own notes.

All the workbook material is linked directly with the notes and directions in the Tutor guide.

Workbooks also contain a copy of each worksheet on tools, fixings and joints.

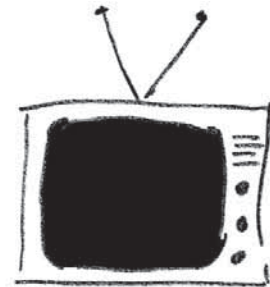


## Worksheets

A *worksheet* is a set of instructions about an individual tool, timber joint or fixing. Each worksheet describes and illustrates common types, how to use or make them, safety hints and suggested practice activities. They are included in both Tutor guide and the Workbooks

## Video

The video for this course first shows some typical forests, saw milling and timber processing. It shows examples of timber yards and timber ready for sale. It then goes on to show students some common tools being used to work timber — saws, tape measures, hammers, chisels, clamps and vices.



## Student activity checklist

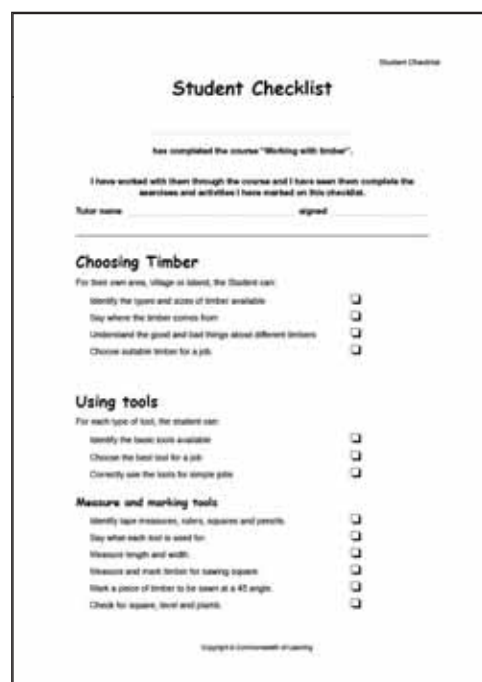
A copy of this Student checklist is at the back of this guide and the student workbook. It provides students with a record of what they have done.

Complete it for each student as they do the course activities. Sign it for them at the end of the course.

## In what order do I run it?

You can run the course material as a continuous 'block' course over several days, or use it as a number of shorter sessions spread over a longer period.

You should run the *Choosing timber* section first. *Using Tools, Measurement & Plans* and *Joining Timber* follow on in sequence but you can change the order if you wish.

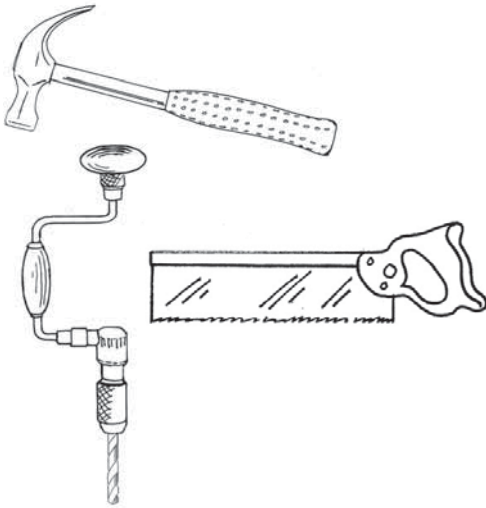




## What resources do I need?

This *Tutor guide*, the *Student workbook* and the *Worksheets* are the main written resources for the course.

You will also need to provide students with timber, tools and equipment to work with. The front page of each section and worksheet list the main resources needed, but here are some general requirements and suggestions:



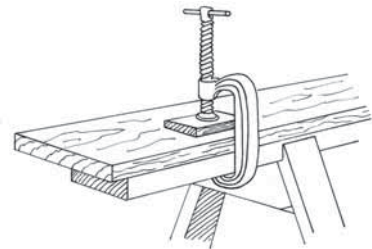
### Tools for students

You will need enough tools for each student to work with. You can use tools that are similar to those shown — you do not need tools of exactly the same style or size. However, you will need to explain the differences to the students — for example, a different length or point size of a saw, or a different style of mallet.

The tools you need are listed on the front of each Tutor guide section and each worksheet.

### Working area

Students will need somewhere to work with timber. You do not have to have a workshop but students will need benches or worktops of some sort. Ideally, these should have a vice attached, but a worktop or a saw-horse with clamps to hold the timber is also good.



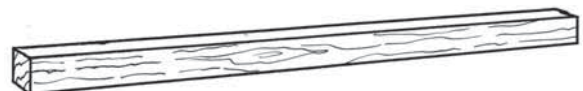
### Timber

You will need timber pieces for students to work with.

Small pieces of scrap or salvaged timber are good enough for most activities, but you will need some larger lengths (up to 2 metres of 100mm x 50mm) for later activities.

You will also need some examples of different types, sizes, finishes and grades (quality) to show to students in the *Choosing Timber* section. Include treated timber samples and poor timber that has faults and defects (such as warps, splits).

You could ask some local businesses to help you with some samples. They can also give you local information on timber types and their size, availability, prices etc.



# The role of the Tutor

As a tutor for this course you should be a competent tradesperson with knowledge of timbers and construction — and skills in using wood working tools.

You do not need to be a formal teacher, but you do need to be able to follow the material in this guide, talk to students about the topics and then show the correct use of tools to measure, cut and shape timber.

As a tutor, you need to:

- Collect resources — local timber examples and working stock, tools, benches etc
- Lead students through the material
- Explain the written material
- Demonstrate timber properties and show how to use plans
- Demonstrate how to use tools correctly and safely
- Watch students work and give feedback on how they are doing.

## Worksheets

Most of the information about woodworking tools, and the various types of joints and fixings is given on a set of worksheets that you can choose to match the tools and materials you use locally. You could leave out any that do not apply in your location — or you could even create your own to cover locally used tools or techniques that we have not produced.

Copies of the worksheets are included in your Tutor guide as well as in the Student workbook.

You need to work through each worksheet with the students, talking about the tools and fixings and showing students how to use them. You will find some detailed guidance on how you can lead students through the Worksheets in the Introduction sections to *Using Woodworking Tools* and *Joining Timber*.

If you wish, you can link activities together and then link them to activities in the later worksheets for joining timber. For example, you could link the worksheets on using saws and chisels to the worksheets on making butt and lap joints.

The worksheets are **not** designed to be used by students learning on their own.

## Worksheet activities

The activities in the worksheets should help students to gain a basic skill in using the tools.

Make sure you give students **lots** of time to have **lots** of practice.



## Assessment

No formal assessment is included in this course.

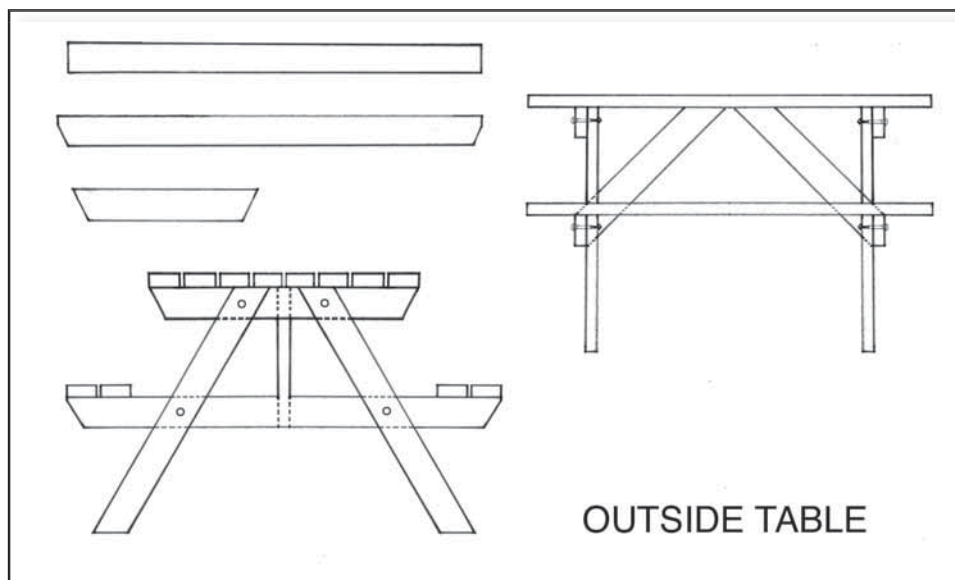
Each worksheet has suggested practical activities for students to practise and complete. You should watch these activities, give feedback to students and encourage practice until your students are competent.

Complete the student checklist after each activity. This will give students a record of what they have done.

## Projects

If a final assessment is required, a suggested form is to have students work together on a project that uses the skills they have learned. Ideally, these should be real, useful projects.

Suitable projects could include: simple frame constructions, a workbench, a saw-horse, an outdoor (BBQ) table. Plans for some of these are included at the back of this Tutor guide. You can suggest others that fit local materials and conditions.



## Student learning

Whether or not your students have had much school, they have much knowledge and skills from their life experience. You should use this when you are teaching groups. Students like to compare what they are learning with their experience. Many of the introductory sessions of this course help students to link the course material with the resources, tools and techniques used in their own locality. Talking about their knowledge, experience and feelings is important.

Discussions are important for learning. Asking questions and looking for solutions to problems are good ways of helping students to learn. Students learn best by working things out for themselves — the activities and practise sessions are most important. As a tutor you should be a guide rather than a teacher.

Most importantly, make every person feel that their thoughts, feelings, and experiences are important. Then, people will be more confident at taking part in group discussions and activities.

This course gives a great deal of information and knowledge about timber and tools, but the main learning should be in developing basic skills. Students must be able to use the tools — not just talk about them. The course material and the tutor can show how to use a saw, but it needs practise and feedback for a student to begin to develop any skill. Give plenty of time and materials for practice and activity sessions.

Groups of two or three students working together, watching and giving each other feedback can work well. It encourages students to recall knowledge, look critically at what they see and then give feedback to each other.