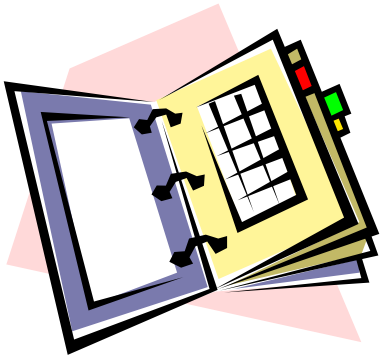
Design file



When you generate the range of documentation described above, you need to keep track of it all and make it available to others, such as your boss and possibly the client. We call this a **design file**.

This will be standard practice when you work as an engineer. This is a significant shift in how you work. In the past, only finished, polished work (eg, assignments, essays) has been important. In engineering, neat, hand-written calculations, drawings, sketches and notes are also important project documents to be preserved for access by others. These are **NOT** word processed to make them look neat. They should be neat and well organised in the first place. Reports, of course, are summaries of all the work and they normally **are** word processed and made easy to read and understand.

Competency being developed

Engineers Australia (Engineers Australia 2004) describes this competency as:

3.4 Professional use and management of information.

a) Is proficient in **locating and utilising information** - including accessing, systematically searching, analysing, evaluating and referencing relevant published works and data; is proficient in the use of indexes, bibliographic databases and other search facilities.
b) Critically **assesses** the accuracy, reliability and authenticity of information.
c) Is aware of common **document** identification, tracking and control procedures.

Contents

Your design file will include **three basic types of information**:

1. **Record of your own work** – notes, sketches, library searches, meeting notes, agendas, action plans. You should be able to show at least one example of each of these things. This is important if you are accused of doing no work in your group. This should be evidence to the contrary. There are pro forma for some of these things in the Appendix of this Handbook.
2. **Collection of all relevant documentation** – handouts from class, web pages printed, photocopies, plans, etc. Include copies of your own submissions.
3. **Personal reflections on the process** – this is where you think out loud about what you're learning. In some classes, you'll be given a reflection question each week. So, as a minimum, this would be the collection of those answers. These writings can also feed into your evaluation report at the end of the semester. There is more detail about writing reflectively in a later chapter (p. 12).

Form of the Design File

Your design file should be a **ring binder**, or similar, with **section separators**. It must have a **Table of Contents** at the start to describe its major sections.

You should organise the design file into major sections based on the stages of the project (as in p.8) or you may find another way of grouping together the work.

It should be **auditable at any class** (or perhaps according to some schedule, as agreed with your tutor).

Record of your own work

Information to be included includes:

- Agendas and Notes from meetings
- Action plans – what needs to be done and who will do it
- Library and internet searches – search terms, results, web page addresses, references for books, journals, etc
- Phone conversations
- Significant email messages, eg, containing important data
- Results of class discussions
- Brainstorming activities
- Sketches
- Mindmaps
- Gantt charts (see later)
- Summaries

Submission of the logbook will be a required component of assessment in each of your projects.

And so on. Pro forma for some of these standard entries are given at the back of this handbook (p.45).

A pro forma for computations (as used by most engineering organisations) is given at p.49.

Sharing with group members

Much of your research you'll want to share with group members. Useful computer tools for this are Dropbox and Google Docs:

- Dropbox installs transparently on your computer or mobile device and it allows you to share documents with each other with minimal effort. Once I put a file in a shared folder, my collaborators can often see it in seconds if they are online. Dropbox works on mobile devices as well as PCs and Macs.
- Google Docs is a more closely controlled environment that allows you to edit documents collaboratively. It also controls access to the documents so that two people can't edit the same document at the same time.
- There are many other cloud-based file sharing programs.

Collaborative group discussion

As well as sharing documents, it is also useful to have a discussion space for posting useful information, web links, conversation, etc. There are many tools for this purpose, including Facebook, Yammer, your LMS's Discussion Boards, etc.