

CHAPTER 3

PROJECT PLAN

The flow and Gantt charts which explain the plan and management of the project are presented in this chapter. The activities for this project follow the process flow so that the project runs smoothly and continuously with less disruption. There are two activities in the process flow that require multiple revisions, each after obtaining the result in order to get a good measurement system.

To ease the activities of the project, this laser attenuation measurement system is divided into four major components which are laser source, lens holder, light intensity power meter and platform. Figure 3.1 illustrates the overall flow of the project which is used through out the project period while Figures 3.2 and 3.3 show the activities for this project for July 2008 and January 2009 semesters. Firstly, the concept and theory of laser, laser attenuation, light scattering and quantification of suspended particles shall be gathered and understood, as explained in Chapter 2. The second step is to review the current applications available in the market, as in Section 1.1, to get the idea on how to build the measurement system. Then, the preliminary experiment is conducted to enhance the understanding on laser attenuation.

The sketching and drawing of the measurement system are done by using AutoCAD 2006 with proper dimension and tolerance. Several sketches are prepared before selecting the best sketch as the final design. The selection process for the final design is done by taking account all the requirements of this project. If the justification of initial design gives low significance, the properties and features of that particular design will be improved. After the design has been finalized, the components for the laser source, lens holders, light intensity power meter and platform will be purchased.

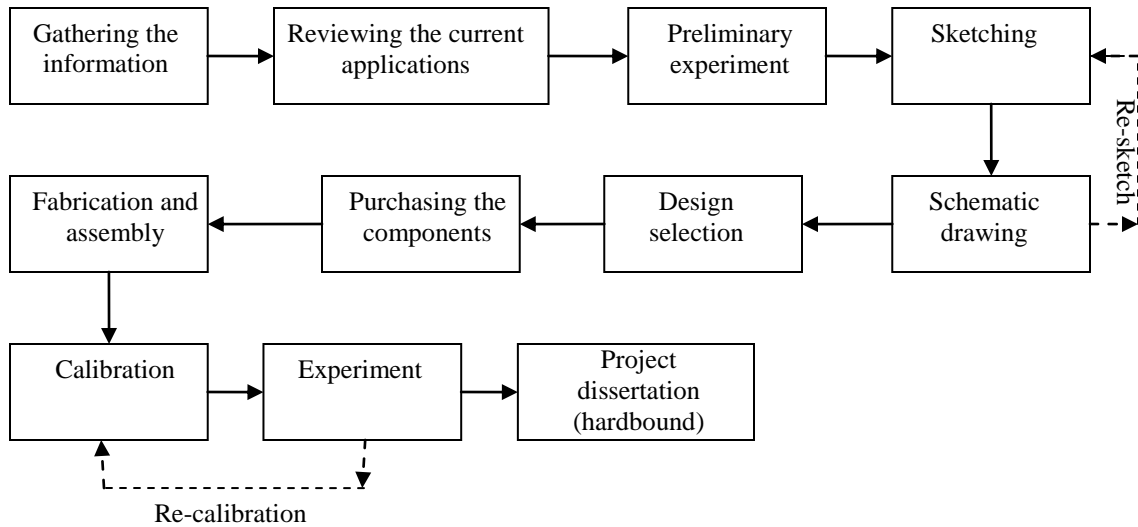


Figure 3.1: Flow chart of the project

The assembly and fabrication of the components are conducted after all the components are obtained. This step must be done by referring to the final schematic drawing and obeying the regulations of the workshop for the safety. Experiments must be conducted in a series of numbers to calibrate and test the functionality of the measurement system. The medium such as Hexane solution and water spray are used in the experiment and the results obtained will be analyzed. If the analysis does not give the expected outcome, the device will be re-calibrated and another experiment will be conducted. Finally, this measurement system will be given a final touch-up to improve its looking and in the same time the project dissertation must be done before the deadline.

Activity	Week													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Topic proposal														
Information gathering														
Preliminary report				★										
Application review														
Conceptual experiment														
Progress report								★						
Seminar								★						
Selection of components														
Purchase of components														
Fabrication of:														
▪ Laser source														
▪ Lens holder														
Interim report														★
Oral presentation														★

Legend: Planned activity Deadline ★

Figure 3.2: Gantt chart for the project in July 2008 semester

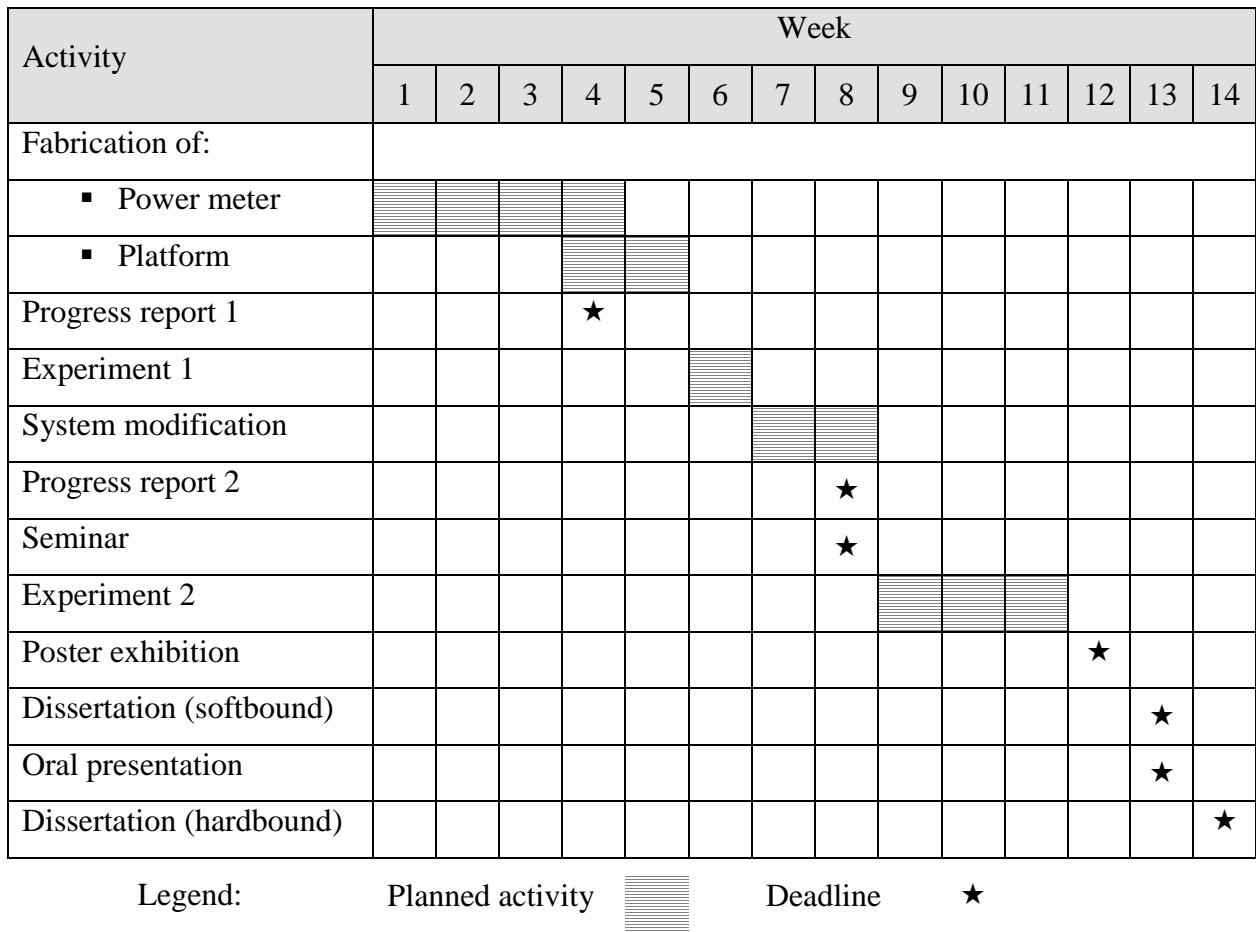


Figure 3.3: Gantt chart for the project in January 2009 semester