CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

During the last three decades, many efforts have been made to protect the population from the harmful exposures to outdoor pollutants. Networks of air monitoring stations have been located strategic places and these provide information on the outdoor pollutant concentrations to which populations are exposed. However, people spend almost average 90% of their time in various indoor likes at home, office, classroom, hospital and restaurant. It is a common belief that while indoors, one is safe from harmful pollutants but the scientific evidences has shown that the indoor air at homes can be more seriously polluted than outdoor. (Zhang and Smith, 2003)

Air pollution is an immense issue that needs more attention and action. Air pollution is the presentation from mining activities, high usage of motor vehicles, deforestation, industrial facilities and open burning into earth’s atmosphere. The major pollutant that was emitted to the atmosphere includes particulate matter, carbon dioxide, nitrogen dioxide, and sulfur dioxide. The influence of the releases of this pollutant can cause haze, ozone depletion, greenhouse effect and other. Air pollution is a main factor for a number of health diseases such as respiratory
problem, lung cancer and others diseases. Individual reactions to air pollutants depend on the type of pollutant a person is exposed to, the degree of exposure, and the individual’s health status and genetics (Bernstein et al., 2004).

1.2 PROBLEM STATEMENT

There is increasing evidence that exposure to physical, chemical and biological indoor pollutants may cause various health problems among students. Students spend most of their daytime in classroom and inadequate ventilation is often suspected to be an important condition leading to health symptoms. (Wargocki et al., 2004)

Since most students spend their long periods of time indoor, indoor air quality has caught attention to research and public institutions. This was because indoor air quality was a huge attention risk factor of human relevance to human exposure to environmental pollutants. Therefore, the purpose of this study was to identify the level of concentration of air pollution at indoor classroom and outdoor classroom.

1.3 OBJECTIVE OF THE STUDY

The objectives of this study are to:

i. To investigate the concentration of air pollutant outside lecture classroom and inside lecture classroom.

ii. To compare the data result with Recommended Malaysia Air Quality Guideline (RMG)
1.4 SCOPE OF THE STUDY

This study focused on the indoor air quality measurement in university. This study also observed the comparison between quality of air outside lecture classroom and inside lecture classroom. The measurement involved in this study were the concentration readings of carbon monoxide (CO₂), sulfur dioxide (SO₂), nitrogen dioxide (NO₂) and particulate matter (PM₁₀).

These measurements were measured using apparatus of Dust Detective and Gray Wolf Direct TOX PPC Kit. The data collected 3 times for each location. For each observation, 12 hours of observation required to collect data. The research conducted at Blok W, Universti Malaysia Pahang, Gambang and Faculty of Manufacturing, Universiti Malaysia Pahang, Pekan. This location has been chosen because both locations are used by student for their lecture.