

# CHAPTER IV

## ANALYSIS AND DESIGN

### 4.1 Analysis

#### 4.1.1 Use Case Diagram

This application need to insert, update, and delete data lecturers, courses, and classes from main menu. In this application also can update data lecturer's days and hours which lecturer could teach. And there must be a connection between lecturers and courses and between courses and classes, but this application allow to edit those connection. Then this application can start scheduling courses by selecting odd or even semesters and the application will issue a schedule optimization.

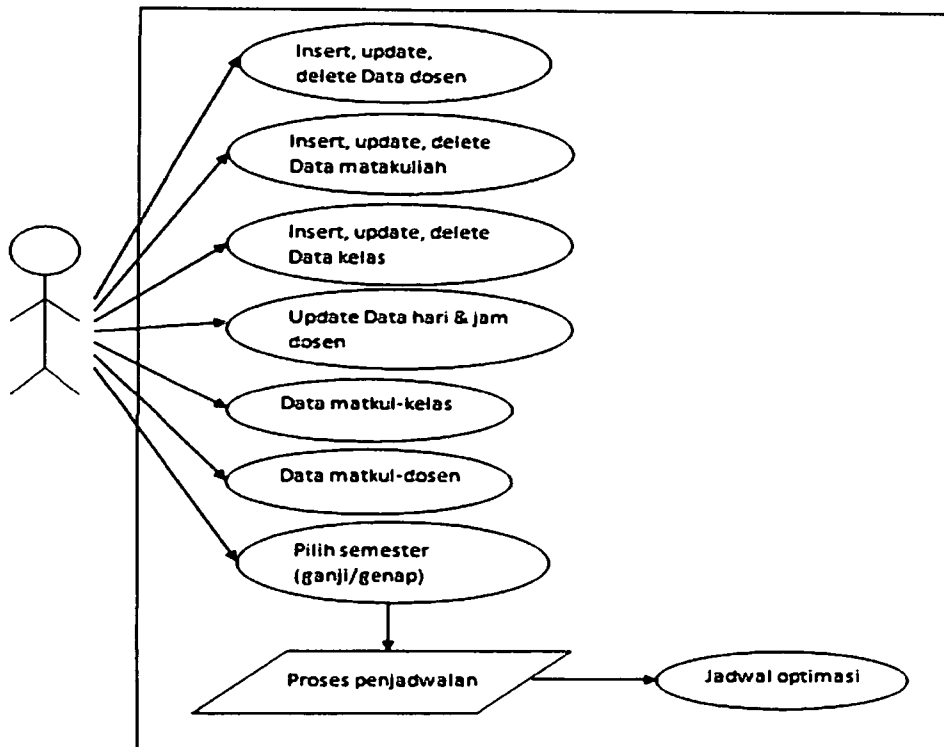


Figure 4.1 Use Case Diagram

## 4.2 Design

### 4.2.1 Class Diagram

At first this application need to insert data lectures, courses, and classes into database. Then, this application can start scheduling by choosing which semester schedule optimization want to made. After that result will be out, and this application can save the schedule optimization into text file. If this application saving schedule into text file then that text file will be downloaded to computer. And this application can browse the saved text file to load it again as timetable schedule.

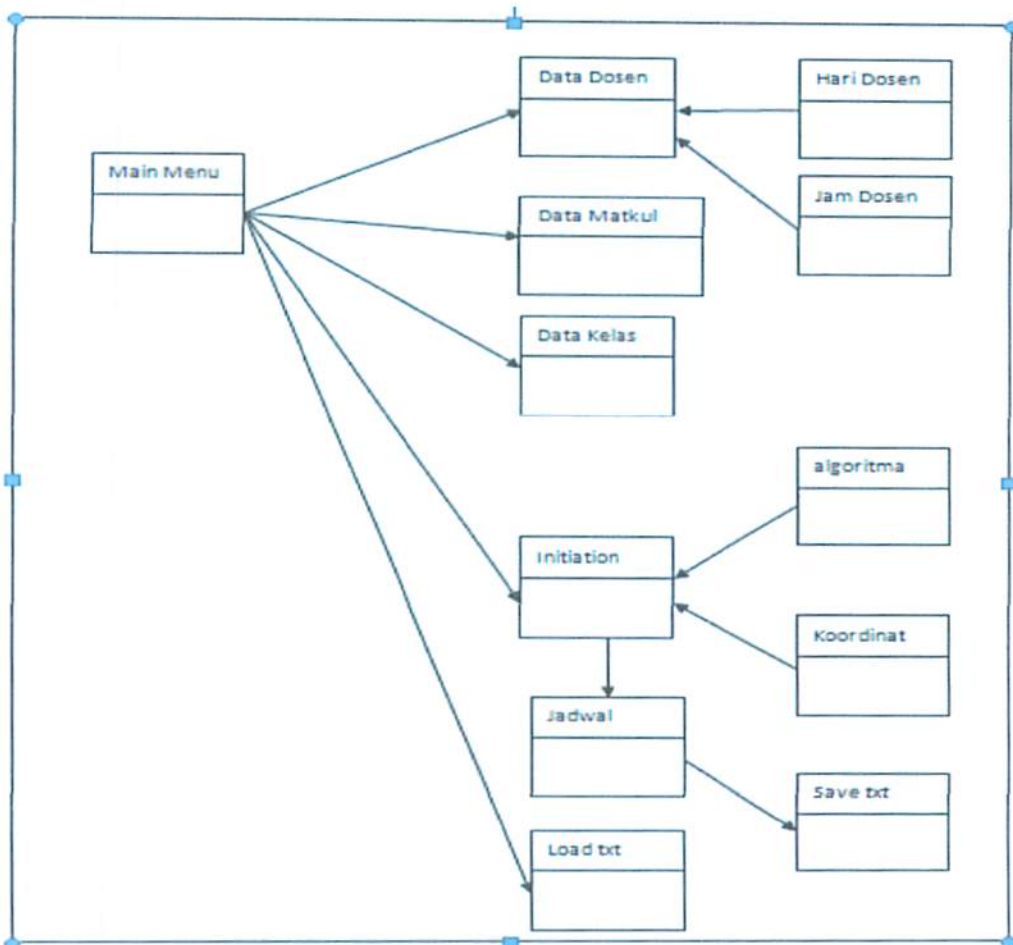


Figure 4.2 Full Class Diagram