



UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG  
*School of Electrical and Information Engineering*  
SD Methodologies, Analysis and Design

## **Design Patterns — Presentation Topics**

The time-limit for each presentation is strictly 20 minutes.

Presentations need to be *interactive*, in other words, the class needs to be involved in some *activity or exercise* to illustrate the topic that you are explaining. This implies that your actual talk-time is much less than 20 minutes!

Please email your presentations, in pdf or powerpoint format, to me by 10:00 on the presentation day (joshua@jcse.org.za).

Each presentation should include sections on:

- the problem that needs to be solved (choose a *realistic* yet understandable problem as opposed to a toy problem invented to illustrate the pattern);
- a description of the solution;
- the trade-offs that the pattern makes or the consequences of adopting the pattern;
- the pattern implementation in either Java, C++ or C#.

The design patterns to be covered are:

- 1 Observer (behavioural)**
- 2 Command (behavioural)**
- 3 Strategy (behavioural)**
- 4 Factory Method (creational)**
- 5 Singleton (creational)**
- 6 Builder (creational)**
- 7 Facade (structural)**
- 8 Composite (structural)**