**COMP 2920 : Software Architecture & Design**

**Assignment 4 Guidelines**

**TOTAL WEIGHT : 4% + 5%**

A group of 2 students may take a case study to develop the overall software architecture for the software they wish to develop in their further courses.

Part-I : **DEVLEOPMENT - 4%**

Stage –I

Describe the top-level objectives, differentiators, target customers, and scope of your product. Do not omit the competitive analysis, and indicate what is novel about your product. Make it clear that the system can be built, making excellent use of the available resources and technology.

Explain the product architecture? Describe at a very high level the components / modules that will interact in your system. How are you going to implement the functionality? What is interesting about this project from a technical point of view? Optionally, what languages/toolkits do you propose to use for the development? Any special quality requirements? Any specific domain requirements etc.

Challenges and Risks

What is the single most serious challenge you see in developing the product on schedule? How will you minimize or mitigate the risk?

Stage-2

* Develop the overall use case diagram and 5 separate use cases with activity diagrams.
* list of candidate classes

Stage-3

* Draw the class diagram showing all the classes, associations and multiplicities.
* Draw three sequence diagram for three different scenarios. The diagram should be the flow of one specific use case of your system. (Also show the use case before the sequence diagram)
* Also draw one state diagram for your system.

Stage-4

* Draw the deployment diagram

Stage-5 : Presentation

* Integrate the diagrams to make 4+1 model of the whole system (1 in each view)

Part-II : Presentation – the final poster will be used for making presentation to the class – 5%

Deliverables:

There are mainly 2 deliverables for this assignment:

Part I : Report

Complete the report using following steps:

Step-I: Overall activity Diagram: Tuesday 14th Nov – 1% of the part I

Step-II: Use case and corresponding Sequence/Communication diagram (3) – Friday 17th Nov 2017 – 1%

Step-II: Class Diagram: Tuesday 21st Nov 2017 – 1%

Rest all is due by 28th Nov 2017

Part II : Presentation – will announce later