**Computer Network Project  
March 2016**

## Course Details

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| **Course Code** CMNT5300 | **Release Date** 11 April 2016 | **Course Title** Computer Networks |
| **Course Lecturer** Dr. Mohammed Awadh Ben Mubarak | | |
| **Element Description** Group Projects (Max 3 per group) | | **Weighting: (% of the Carry Marks)** 20% |
| **Project Title**  Network Labs and simulation  Network Configuration Using Packet Tracer,  Hub vs. Switch Performance Analysis,  and Traffic Sniffing Using WireShark. | |  |

## Dates

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| **Date Issued to Students** 11 April 2016 |  |
| **Soft copy of the Report Submission to Turnitin Date**  06 May 2016  **Demo and Presentation (+ Submission Hard copy of the report) Date** 09 May 2016 Review and Assignment Objectives The project is to let you understand how to configure and test simple network topology using Cisco Packet tracer Simulation software, How to sniff a network traffic using WireShark software, and compare between Huband Switch Performance using Opnet simulation software.  Students are required to implement and demo their labs and write a report using their own words. ***Plagiarism and copy and paste are not allowed. Any plagiarism detected in the assignment will result in 0 marks*** Instructions  Please read this instructions before you proceed with the questions. Rules for the project assignment Please read these rules and Confirm that you have read and understood them before you solve your assignment  1. You have exactly 4 weeks to develop the project. It has to be received by me by in 06 May 2016. ABSOLUTELY NO EXTENSIONS. Late submission will be penalized ZERO mark.  2. Beside the hard copy submission, please submit a soft copy of your report to Trunitin account (Will be given later)  3. The assignment must be takenin a group (Max 3 per group).  4. Any similarity with the other student will be considered as a ***Plagiarism*** and will result in 0 marks.  5. This project consists of three parts, answer any two parts. First part of the project **In this LAB1, the network topology is shown in Figure 1.You only have to do the require configuration in PC1. PC2, R1, R2 and R3 based on Table 1 and Test Connectivity between PC1 and PC3 Using Cisco Packet Tracer software.**  You should deign the scenario and repeat the configuration and testing using three different routing protocols as following:   * Using static routing protocol * Using RIP routing protocol * Using OSPF routing protocol   Please save each scenario in different file. Beside the hard copy submission you need to submit a soft copy of your report plus the three cisco packet tracer’s files (using three different routing protocols) to [awadh@iukl.edu.my](mailto:awadh@iukl.edu.my)    Note: Cisco Packet Tracer Manual will be attached with this assignment. Second part of the project This part is designed to demonstrate the implementation of switched local area networks. Thesimulation in this lab will help you examine the performance of different implementationsof local area networks connected by switches and hubs using OPNET Academic Edition simulation tool.  For more details, see the appendix “Switched LANsA Set of Local Area Networks Interconnectedby Switches” will be attached with this assignment. Third part of the project In this lab, you’ll investigate the behaviour of TCP in detail. You’ll do so by analyzing a trace of the TCP segments sent and received when transferring a 150 Kbyte file (containing the text of Lewis Carroll’s Alice’s Adventures in Wonderland) from your computer to a remote server.  For more details, see the appendix “TCP, Adopted from Wireshark Labs” will be attached with this assignment  Note: Wireshark Manual will be attached with this assignment. |  |
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