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| **logo University of Management & Technology** School of Engineering Department of Electrical Engineering |
| EL 330 Computer Network Lab |
| **Lab Schedule** | Control & Microwave Lab,Ground Floor, South Block | **Semester** | Fall 2013 |
| **Pre-requisite** | N/A | **Credit Hours** | 1 |
| **Instructor(s)** | Usman Ali(1)Muhammad Usman Ali(2) | **Contact** |  usman.ali@umt.edu.pk usmanali@umt.edu.pk   |
| **Office** | 2S-46 (1)3S-41(2)  | **Office Hours** | Tue & Thu 11-3:30; Fri 11-5 (1)M/T/W/T: 11:00 – 12:30(2) |
| **Course Description** | In accordance with HEC curriculum objectives a, d, f & g, the labs have been designed in such a way to help students understand course contents from a practical perspective, get sound engineering knowledge along with hands-on experience in the usage of laboratory equipment. |
| **Expected Outcomes** | In accordance with HEC curriculum outcomes a, b, d, e, g, h & i students at the end of the course should be able to* To help the students gain an understanding of modern day computer networks
* Apply OSI & TCP/IP protocols architectures
* Design, Simulate and Analyze Networks (software and hardware)
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| **Textbook(s)** | Computer Network Lab Manual  |
| **Grading Policy** | **Sessional:** 40 marks (Lab performances + Manuals + Lab viva)**Final:** 60 marks (30 marks for project + 30 marks for performance out of the labs) |

**Lab Course Schedule**

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| **Week** | **Experiments** |
| **1** | **Network Topology** |
| **2** | **Modes of Routers and Switches** |
| **3** | **Who and how can anyone access Network Devices** |
| **4** | **Virtual Local Area Network (VLAN)** |
| **5** | **VLAN Trunking Protocol (VTP)** |
| **6** | **Inter VLAN Routing**  |
| **7** | **Spanning Tree Protocol (STP)** |
| **8** | **Configuration of Static Routing Protocol**  |
| **9** | **Configuration of Dynamic Routing Protocol (RIP)** |
| **10** | **Configuration of Dynamic Routing Protocol (OSPF)** |
| **11** | **Configuration of Dynamic Routing Protocol (EIGRP)** |
| **12** | **Configuration of Dynamic Routing Protocol (BGP)** |
| **13** | **Redistribution of Routing Protocols** |
| **14** | **Access Control List (ACL)** |
| **15** | **Network Address Translation (NAT)** |
| **16** | **Backup of configurations to TFTP server** |