Course Code/Name	**IBL1 2303: Network Routing and Configuration Laboratory Practical**
Lecturer/email address	Dr. Kennedy Ronoh / kennedy.ronoh@tukenya.ac.ke
Course Link	**https://elearning.tukenya.ac.ke/course/view.php?id=3123**

1. Detailed Course content

Week	Subject Area	Discussion Topics
1	Introduction	• Review of OSI Model • IP addressing • Network equipment: router, switch, hub
2	Huawei VRP and Configuration Basics	• Installing eNSP • Command line views • Common commands • Command line shortcuts
3	IP Routing Basics	• Introduction to routing • Static routing vs dynamic routing • Distance vector routing vs link state routing • Internal vs external routing • Lab: IPv4 addressing and routing example
3	RIP Routing	• Basic principles of RIP • RIP configuration example
4	OSPF Routing	• Basic principles of OSPF • OSPF Areas • Single Area OSPF and Multi-area OSPF • DR and BDR • OSPF configuration example
5	Assessment	• Online – TUK e-learning portal
6	Spanning Tree Protocol	• Loops • STP Tree Generation • STP Port States • STP configuration example
7-8	Virtual LANs	• VLAN purposes • VLAN Types • VLAN configuration example • Inter-VLAN Layer 3 communication • Inter-VLAN Layer 3 communication configuration example
9	IPv6 Addressing	• Introduction to IPv6 addressing • IPv6 configuration example
10	Assessment	• Online – TUK e-learning portal

2. Teaching Methodology:

Summary Notes, lectures, class discussions, Lab demonstrations.

3. Course Text

- HCNA Networking Study Guide
- Huawei Data Communication Training Material
- Carlsson Bruce, (2002), Communication Systems, 4th Ed, McGraw Hil
- Huawei Data Communication Lab Guides

4. Course Assessment:

Assessments – 100%