

Grupo	
Naran Estudiantes	

Exame-Parte B (Grupo) – Lori ba Uma

## Campus Network Design

Submit by Email to: jose.lay [at] tlnren.com

Deadline: 10 July 2016

### Objectives

In this project you are required to design a network for a typical department that requires its computers to communicate with each other and on the internet.

### Requirements

The UNTL is considering building a campus-wide network to provide services to students, education and administrative staff and also to set up several servers across two campuses: the Main campus and the Hera campus.

The University has just leased a permanent fibre connection providing 40Mbps for upload and download to its Main campus. It has also purchased the 101.110.111.128/25 network from its ISP (this IP range is fictional).

Your task is to come up with a logical, efficient and scalable network design that will be suitable for this project. The University has allowed an adequate budget to establish connectivity between the two campuses and to purchase any switches and routers that may be required, yet obviously does not want to spend more than necessary.

### Deliverables

Build a document giving all the necessary network designs (enough information should be provided that will allow any technician to build your network structure from scratch). You are requested to depict the network setup by means of diagrams showing the division of the networks and their interconnections. You will submit a pdf report in which you will place you network design.

Please consider all relevant aspects in the physical, data-link and network layers. Also please use only standard depictions for components. The design should also contain the routing tables of each and every router and PC in your network diagram. Make sure you include the subnet masks and the default route. Also include any other necessary information such as ranges of ports when using NAT, allocation policies if using DHCP, limitations of any technique used, etc. You are free to make use of any reasonable assumptions.

When drawing up your network designs make sure you split the design up in a way that emphasizes the organizational structure. As a hint always split up networks in terms of department/units/labs, since PCs within a department are most probably will often communicate between themselves.

Good luck.