COMP 535 Computer Networks 1
Course Project Description
Winter 2019
Part 1

Description

The aim of this project is to design and configure a university's campus network according to a set of given requirements, using packet tracer. The university includes 5 faculties: Natural Science, Health, Arts, Social Science, Engineering and Technology, with different departments. It also includes a data center with several servers. The campus is connected to an ISP providing it access to the internet. The entire network is presented in figure 1, together with a set of requirements.

The project is organized in two parts. You will be working in teams of three. Overall you will be covering the following:
- Configuring networks
- IPv4 and IPv6 addressing
- Static routing: Specific + Default routes
- Dynamic routing
- Wireless access
- Configuring and testing applications

Each member of your team will need to submit the packet tracer file to mycourses. The file should be properly documented (i.e. includes subnets IP addresses, static IP addresses of routers and servers, as well as any usernames and passwords needed).

Requirements

Part 1: Deadline: February 24, 2018 23:59

1. **Building the network.**
   - Create a packet tracer with the network presented in figure 1
   - Please use ONLY the following Router: 2911
   - Add three servers in the Data Center subnet
   - Add for each subnet in your departments two PCs
   - Assign hostnames for routers with any theme you want, but keep the reference part indicated in figure 1. As an example: For a Disney theme, for "University" router you can rename it as "Mickey-University"

2. **IPv4 addressing.**
   Note: Ignore the wireless router's configuration for this part
   - Plan the addressing scheme in the campus according to the requirements highlighted in figure 1
   - Servers in your data center need to be provided static IP addresses
   - All PCs should be dynamically configured via DHCP. You can either i) add and use one DHCP server per subnet or ii) add and use one DHCP server per department

3. **Configuring routing.**
   - On "University" router, create a default static route that points to the ISP's router
   - On "ISP" router, create a summarized static route to reach the campus network

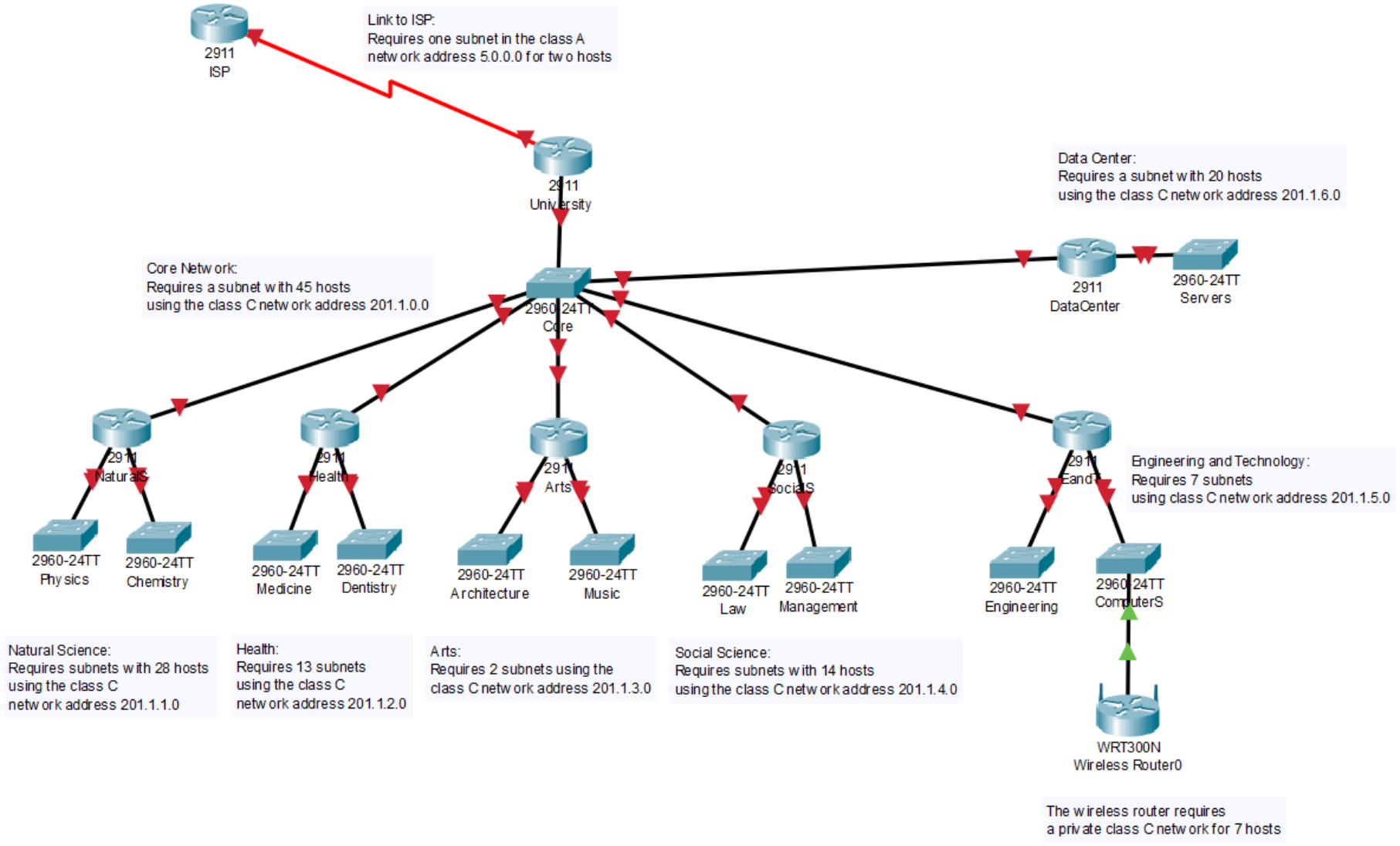

Figure 1: Network topology and requirements