

# Campus/University System Network Design

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## Case Study: Albion University

### Introduction

Albion University, with its two campuses 20 miles apart, presents a unique challenge in network design. The university's faculties are distributed across four main disciplines, each with distinct networking needs.

### Project Requirements

The project aims to create a network topology that supports the following components:

- **Main Campus:**
  - **Building A:** Administrative staff and the Faculty of Business.
  - **Building B:** Faculties of Engineering/Computing and Art/Design.
  - **Building C:** Student labs and the IT department hosting the university's web server.
- **Smaller Campus:**
  - **Faculty of Health Sciences:** Staff and student labs on separate floors.

### Configuration Expectations

- Core devices and a few end devices must be configured to provide end-to-end connectivity and access to both internal and external servers.
- Each department/faculty should have its own separate IP network.
- Switches should be configured with appropriate VLANs and static settings.
- RIPv2 will be used for routing within the internal network, and static routing for the external server.
- Devices within the building are expected to acquire dynamic IP addresses from a router-based DHCP server.

### Tasks

1. Plan and design the network topology for Albion University.
2. Prototype the network using Cisco Packet Tracer.
3. Configure the network as per the requirements.
4. Evaluate the proposed network design and produce a comprehensive report.