Honours Bachelor of Computer Science – Network Engineering

Meet our students

Our students have a solid foundation in cloud computing, data analytics, game engineering and network engineering. Students specializing in data analytics complete six specialized courses prior to their co-op term (totaling 336 training hours) that are not traditionally taught in diploma and degree programs. These courses strike a balance between theory and practical experience allowing our students to develop the knowledge and skills needed to plan, construct, optimize and manage the computer networks that businesses and organizations rely on every day.

Learn more about the classes these students take by visiting the program webpage.

Core competencies and skills

- Developing software applications using C#, C++, Java, Swift, Python, JavaScript and more, using industry-grade frameworks and tools.
- Designing an integrated network infrastructure with links involving coax cable, UTP cable, and optical fibre.
- Implementing static routing on a router cluster including load balancing.
- Implementing an SMTP mail service and DHCP service.
- Constructing multi-domain EIGRP and OSPF networks to analyze and predict the routing traffic and the router states and debug as necessary.
- Setting up policies using route maps, prefix lists and access lists to implement in both Cisco and Juniper platforms.
- Performing analysis of real-time Internet routing tables, from both IPv4 and IPv6.
- Collaborating when working in software engineering and multidisciplinary teams.

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- Communicating professionally, meeting client needs and project due dates.
- Researching new knowledge and technologies within the computer science field.

Work term availability

- Students onboard in the summer (May) and can pursue 4–16-month work terms.

Note: Students who secure an 8-month or longer placement may be eligible for tax credit.

Work term capabilities

- Evaluating the architecture and principles of operation for computer systems and networks.
- Designing, implementing, and deploying software systems for various application domains and secure enterprise-grade information systems.
- Building a fully functioning and tested switched, routed computer network using static and dynamic routing protocols.
- Performing tests for link connectivity and routing paths using tools like traceroute and ping.
- Identifying the primary convergence issues with DVP like distributed recursive computations and topological blindness.
- Selecting network components for optimal performance and cost.
- Implementing written peering agreements.
- Estimating resources needed to deploy BGP.
- Designing effective user interfaces using human-computer interaction principles.
- Evaluating network protocols, routing algorithms, connectivity methods and characteristics.
- Assessing the capabilities of next-generation networks and the role of wireless technologies in network design and operation.

Employer resources

- Employer webpage
- Program information
- Program course schedule

Post a job

To post a job, log in to our online platform **Sheridan Works**.

Don't have an account? Create one today using our **Employer Registration Guide**.

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