

1: Information Security

Overview

- Two-year advanced diploma
- Fall entry date
- Classes take place between 8 am and 6 pm
- Classes are held on campus on Mondays, Tuesdays, and Wednesday mornings and online on Wednesday afternoons, Thursdays, and Fridays
- Exchange District Campus (formerly Princess Street Campus), Winnipeg
- Co-op work experience
- International applicants please visit [Academic Program, Dates and Fees](#) for a listing of programs for international students, current availability and online application instructions.

Description

The Information Security program will provide you with the theory and experience required to analyze, evaluate, manage and respond to today's most complex information security issues. You will learn the fundamentals of designing and analyzing robust personal, enterprise and web-based IT security systems. Students graduating from this program will be well positioned to enter into and succeed in the information security field in Manitoba and across North America.

The Information Security graduate:

- Manages projects to implement security solutions that align with business strategy.
- Develops interpersonal skills and political acumen to skillfully collaborate, provide feedback, teach others, and network with professionals in the field.
- Learns continuously to maintain skills and knowledge related to the field of information security through continuous learning.
- Displays ethical reasoning to ensure proper application of knowledge.
- Conveys technical information in written and spoken form to individuals with varying levels of technical knowledge.
- Uses critical and creative thinking skills to troubleshoot, solve problems, find information and make decisions.
- Complies with federal, provincial and industry-specific standards, regulations, and legislation.
- Establishes web and database security to ensure proper website security frameworks.

- Conducts code reviews to demonstrate secure and vulnerable code sets.
- Conducts vulnerability assessments using relevant analysis tools.
- Installs security tools and automates system activities using Python/Linux Shell scripts.
- Develops detailed risk analyses, assessments, and produces solutions to help mitigate risk.
- Designs, implements, and evaluates security architecture, controls, and solutions to ensure implementation of enterprise-wide security solutions.
- Conducts forensic investigations, responds to security incidents, and guides remediation to gather detailed information for remediation and to mitigate further incidents.

FULL-TIME | WINNIPEG LOCATIONS

Information Security

Admission Requirements

Your Academic History

If your academic history includes any of the following, please visit [My Education](#) for important information: post-secondary studies at an institution other than Red River College Polytechnic; Modified (M), English as an Additional Language (E), or GED high school courses; or home schooling; international secondary (high school) studies.

The college requires transcripts verifying your complete academic history including any public or private high school, college, university, or technical institute you have attended.

DOCUMENT SUBMISSION

Upload Through Your Future Student Account

- Scan your document(s) and save the file. Ensure you keep your original documents as the College may request to see them at any time.
- Go to apply.rrc.ca and log in.
- Click on your application, then Supplemental Items & Documents.

If you do not have a Future Student Account or require assistance, please contact our Student Service Centre at [204-632-2327](tel:204-632-2327).

Internationally Educated Applicants - visit www.rrc.ca/credentials for credential assessment information.

Submission of required documentation indicating proof of completion of admission requirements is due within 15 days of applying unless otherwise noted in the program's admission requirements.

However, if you apply within 6 weeks of the program start date, admission requirements are due within 5 days of applying.

Regular Admission Requirements

1. Post-Secondary Education

- Submit proof of graduation from or enrolment in a certificate, diploma or degree related to Information Technology from a recognized post-secondary institution including:
 - Manitoba Institute of Trades and Technology [Cyber Defense and Cloud Administration Diploma](#) Program
 - Manitoba Institute of Trades and Technology Network and Systems Administrator Advanced Certificate Program
 - Red River College Polytechnic's [Pathway to Information Technology Program](#)
 - Red River College Polytechnic's [Application Development and Delivery Program](#)
 - Red River College Polytechnic's [Computer Network and Support Program](#)
 - Red River College Polytechnic's [Business Information Technology](#) Program
 - Computer Science Degree
 - Computer Engineering Degree
 - Degree in Mathematics – Minor in Computer Science
 - Degree in Applied Mathematics – Minor in Computer Science
- Your education must include the following topics:
 - Two levels of programming in any one language (introductory and intermediate)
 - Databases, the relational model and SQL
 - Web programming using page development tools such as HTML, CSS, PHP, Javascript, JSON, etc
 - Operating systems (Windows and Linux/Unix)

- Networking covering IP addressing, the OSI model, and in-class hands on experience with routers and switches
 - If you provide proof of enrolment at time of application, your official final grades indicating successful completion must be submitted by July 15 for fall enrolment or by the deadline specified in your admission letter.
 - Post-secondary transcripts must have been issued within 6 months prior to your application date, and submitted in a sealed envelope directly from the post-secondary institution.
 - If you are required to complete an English language assessment, do not submit your transcripts until requested to do so. See English Language Requirements (ELRs) for more information.
- and*

2. English Language Requirements (ELRs)

- Answer this question to determine if you meet this program's ELRs:
Have I successfully completed 3 years of full-time high school (secondary) education in Canada, the United States, or an [ELR exempt country](#) where English was the language of instruction?
 - If YES, you meet English language requirements. Apply and then submit your transcripts* for review
or
 - If NO, submit proof of meeting an [ELRs option](#). If you choose the English language assessment option, review [this program's approved assessments and required levels](#).
or
 - If you completed all of your education in Canada, the United States, or an [ELR exempt country](#) in English but you did not graduate high school, submit your transcripts* for review.
- * If your transcripts are from the USA or an [ELR exempt country](#), we will assess an [International Credentials Assessment Fee](#) to be paid before your transcripts will be reviewed.

Mature Student Admission Requirements

If you are 19 years of age or older on or before September 30 in your year of registration, have been out of high school for a minimum of one year, and you do not meet the regular admission requirements, you may apply under the Mature Student admission requirements.

1. Information Technology Work Experience

- High school graduation is not required, but you must submit proof of having completed a minimum of three years of paid employment in

an information technology related role.
and

2. Meet Regular Admission Requirement 2

Academic Advising Service

Our academic advising service can provide information about our full-time programs, explain program admission requirements, and help you select the right program to meet your career and academic goals. We can also connect you with helpful people, resources, and supports.

- For more information visit [academic advising](#).
- If you are an Indigenous student, you can contact an [Indigenous Admissions Advisor](#).
- If you are an international student, you can contact [International Education](#).

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Locations, Dates and Fees

Next Estimated Term 1 Start Date (subject to change)

Costs (estimates only; subject to change)

Program/Student Fees

Year 1

\$16,529.00¹

Year 2

\$10,279.00²

Books and Supplies

Year 1

\$2,200.00³

Year 2

\$80.00

Program/Student Fees for International

Year 1

\$22,121.00⁴

Year 2

\$17,048.00⁵

¹Includes \$255 for Health and Dental Fees

²Includes \$255 for Health and Dental Fees

³Includes an estimate of \$1600 for the purchase of a laptop

⁴Includes approximate Health and Dental Fees

⁵Includes approximate Health and Dental Fees

Students may apply for financial assistance through the Manitoba Student Aid program. For general information on applying please call [204-945-6321](tel:204-945-6321) or [1-800-204-1685](tel:1-800-204-1685), or visit their website at www.manitobastudentaid.ca, which also includes an online application. For detailed information, please visit one of the [RRC Polytech Student Service Centers](#) or call [204-632-2327](tel:204-632-2327). Applicants requiring financial assistance should complete their student loan applications well in advance of the class start date.

FULL-TIME | WINNIPEG LOCATIONS

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Courses and Descriptions

(Click the course name to view the description of the course)

Year 1

Term 1:

Credit Hours

COMM-1159[Building Working Relationships](#) 5

PDEV-1100[Professional Development 1](#) 2

SECU-1005[Security Fundamentals](#) 5

SECU-1006[Cryptography](#) 5

SECU-1010[Network Infrastructures](#) 5

SECU-1011[Practical Linux and Python](#) 5

Term 2:

Credit Hours

COMM-2159[Professional Communications](#) 5

PDEV-2100[Professional Development 2](#) 2

PROJ-2015[Project Management for Information Technology](#) 5

SECU-1007[Implementing Security Infrastructure](#) 5

SECU-2001[Ethical Hacking and Penetration Testing](#) 5

SECU-2008[Security Risk Management](#) 5

Year 2

Term 3:

Credit Hours

PDEV-3100[Professional Development 3](#) 2

SECU-1009[Malware Analysis](#) 5

SECU-2002[Web Server Security](#) 5

SECU-2009[Security Architecture](#) 5

SECU-3001[Incident Response/Forensics](#) 5

SECU-3008[Security Management](#) 5

Term 4:

Credit Hours

Electives

PROJ-2022[Information Security Industry Project](#) 3

WRKE-2002[Information Security Co-Op Work Exp Experience](#) 3

Information Security

Graduation Requirements

Effective as of the 2019-2020 Catalogue year:

To graduate from Information Security, all students must complete a total of 16.5 full-course equivalents and 1 work experience for a total of 84 credit hours within five years of the date of your initial enrolment. You are responsible for ensuring you take the appropriate courses to meet the requirements for graduation.

You must submit an application to graduate in your final term of study.

Basic Requirements

Computer/Laptop Requirements

You need a laptop computer that meets the [specifications](#) for the program. These [requirements](#) are higher than for other programs at RRC Polytech, so you need to review them before purchasing your computer.

Please review the requirements at <https://catalogue.rrc.ca/files/File/catalogue/LaptopandInternetSpecsACE.pdf>.

You need to bring your laptop to all classes that take place on campus. The College provides free high-speed internet access on campus. For online classes, you are responsible for your own high speed internet connection.

Recognition of Prior Learning

Recognition of Prior Learning (RPL) is a process which documents and compares an individual's prior learning gained from prior education, work and life experiences and personal study to the learning outcomes in college courses/programs. For more information, please visit www.rrc.ca/rpl.