3: Application Development and Delivery

Overview

- **Two year plus Co-op (28 month) diploma**

- **August and January entry dates**

- **Classes normally take place between 8 a.m. and 8 p.m.**

- **Most classes are held online on Mondays, Tuesdays, and Wednesday mornings and on campus Wednesday afternoons, Thursdays, and Fridays**

- **Online-only options are available**

- **Location:**

  - **Exchange District Campus, Winnipeg, Manitoba**

  - **Students who live outside of Winnipeg can select online courses; limited seats are available**

- **Mandatory work-integrated learning term (co-op work or industry project)**

- **You need to have your own laptop that meets the minimum requirements**

- **International applicants please visit Academic Program, Dates and Fees for a listing of programs for international students, current availability and online application instructions**

Description

Application development involves the programming and delivery of computer applications focused on solving business problems. You will gain the skills, knowledge and attributes related to all aspects of the software development life cycle including design, building, testing, deployment, and maintenance. You will also use agile processes and collaboration tools to work in teams, implement User Experience (UX) perspectives, and write documentation.

After completing the program, graduates will be able to:

1. Integrate customer and user experience perspectives into the design, development, and delivery of applications.

2. Interpret architecture diagrams to develop and deliver software solutions.

3. Write code in multiple programming languages to create and modify software solutions.

4. Collaborate with other programmers to build and modify a base of code by using a version control platform.

5. Apply Agile practices to develop and deliver software as a team.

6. Communicate to enhance professional relationships with people of various backgrounds.

7. Test code for functionality, syntax, security, and digital accessibility by using manual or automated tools and processes.

8. Create documentation tailored to a specific audience so that others can interpret, modify, or use code and software.

9. Use cloud platforms and services to develop, deploy and maintain applications and microservices.

10. Use orchestration and containerization tools to manage configuration, scheduling, resource allocation and other tasks.

11. Apply continuous integration/continuous delivery methods to automate the building, testing, and deployment of applications.

12. Analyze application dependencies to visualize a network, troubleshoot problems between software and infrastructure, and identify vulnerabilities.

13. Apply the IT service management framework to resolve incidents, manage problems, plan for changes, use knowledge bases, and continually improve services.

Graduates may work as Software or Application Developers, Front End or Back End Developers, Full Stack Developers, DevOps Engineers, or other similar occupations.

FULL-TIME | WINNIPEG LOCATIONS

Application Development and Delivery

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.

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. **Grade 12**

    o **Submit proof of graduation from or enrolment in Grade 12**

    o **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**

    o **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)**

    o **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.

  o * 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.
    and

If you are 19 years of age or older and have been out of high school for a minimum of one year at time of application, and you do not meet the regular admission requirements, you may apply under the Mature Student admission requirements.

1. Academic Requirement

   o High school graduation is not required, but you must have successfully completed or be enrolled in:

     - One credit in each of the following courses:

       - Grade 12 English (40S)

       - Grade 12 Math (40S)
         or

     - RRC's Introduction to Business program (this program is no longer offered by the College). A minimum GPA of 2.0 is required, however a minimum GPA of 2.5 is recommended.

   o 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

   o 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. Meet Regular Admission Requirements 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](#).**

FULL-TIME | WINNIPEG LOCATIONS

Application Development and Delivery

Locations, Dates and Fees

Costs (estimates only; subject to change)

Program/Student Fees

Year 1

$7,463.00

Year 2

$7,574.00

Year 3

$1,781.00[1]

Books and Supplies

Year 1

$2,150.00[2]

Year 2

$600.00

Program/Student Fees for International

Year 1

$17,969.00[3]

Year 2

$17,999.00[4]

Year 3

$6,174.00[5]

Application Development and Delivery

Courses and Descriptions

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

Year 1

Term 1:

Credit Hours

COMM-1173 [Communication Strategies](#) **3**

COMP-1327 [Software Development Fundamentals](#) **6**

COMP-1328 [Customer Experience and User Experience For Developers](#) **6**

COMP-1329 [IT Fundamentals](#) **6**

COMP-1332 [Service Management for Software Developers](#) **3**

Term 2:

Credit Hours

COMM-2172 [Communication for the Workplace](#) **3**

COMP-1333 [Networking and Troubleshooting for Developers](#) **3**

COMP-1701 [Transforming Data Into Databases](#) **6**

COMP-2230 [Front-End Development](#) **6**

COMP-2327 [Intermediate Software Development](#) **6**

Year 2

Term 3:

Credit Hours

COMM-2176 [Communication for Systems and Innovative Thinking](#) **3**

COMP-3018 [Back-End Development](#) **6**

COMP-3019 [Application Design and Delivery](#) **6**

COMP-3020 [Cloud Infrastructure and Development](#) **6**

COMP-3021 [Secure Coding and Testing](#) **3**

Term 4:

Credit Hours

COMP-4001[Developing in a DevOps Environment](#) **6**

COMP-4002[Full Stack Development](#) **6**

Electives

COMP-1310[IT Architecture and Design](#) **6**

COMP-1334[Design Thinking and Innovation](#) **6**

COMP-1702[Introduction to Data Science and Machine Learning](#) **6**

COMP-2042[IT Service Desk and Customer Support](#) **6**

COMP-2044[Security Foundations](#) **6**

COMP-2045[Cloud Infrastructure](#) **6**

COMP-2231[Data Analysis with Libraries](#) **6**

COMP-2232[Internet of Things](#) **6**

COMP-4004[Business Application Integration](#) **6**

COMP-4005[Advanced Front-End Development and Analytics](#) **6**

Year 3

Term 5:

Credit Hours

Electives

COOP-5001[Application Development and Delivery Co-op](#) **6**

INDP-5002[Application Development and Delivery Industry Project](#) **6**

Application Development and Delivery

Graduation Requirements

Students will earn the Application Development and Delivery diploma by completing 102 credit units consisting of 1,440 hours of classroom learning over four academic terms plus a 600-hour work integrated learning (WIL) term. Course-based registration allows students to complete the program on either a part-time or full-time basis in a minimum of 20 months. Typical full-time students who take a four-month study break each year will complete the program in 28 months. As per College policy, students must complete the program within six years.

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.