THOMPSON RIVERS UNIVERSITY

Post-Baccalaureate Diploma in Applied Data Science

Tentative starting date: **September 2023**

The amount of data in our world has grown exponentially, and so has the demand for professionals who can make sense of it all. Data scientists extract data to create visualizations, forecasts or manipulations.

The post-baccalaureate diploma in applied data science program is designed to help meet the rising demand for data scientists and analysts, while providing specialized training in the area. This program directly addresses the provincial and national shortage of skilled labour in the field of applied data science.

This program is open to domestic and international students who already have an undergraduate degree. Students can upgrade their education and develop the skill sets necessary to build a career in either the private or public sectors.

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Job market and potential areas of employment for graduates

There is a growing demand for professionals with data analytic skills. It is estimated by Canada's Big Data Consortium that Canada's overall shortage of data literate managers and analysts will be about 150,000.

Employment opportunities for graduates are in the areas of:

- Data scientists in large private or public organizations
- Data analyst positions in software development, business intelligence, medical/health research and data management.
- Strategic analysis manager positions of policy-making bodies of government and organizations
- Data architect designers of social networks and communication networks

Program learning outcomes

Upon successful completion of the post-baccalaureate diploma ADS, students will be able to:

- Apply techniques to collect and extract data sets.
- Use data exploratory methods to visualize high-dimensional data to identify trends and patterns in data sets.
- Apply statistical techniques such as regression, error analysis, statistical learning and model validation to transform data into meaningful form.
- Manipulate data in a variety of formats to find answers to a variety of questions.
- Appraise and select appropriate algorithms ina variety of data analytic stages on various properties including efficiency.
- Understand and implement appropriate ethics surrounding aspects of modern data.

PROGRAM STRUCTURE:

The post-baccalaureate diploma in applied data science is a **60-credit, two-year program** that prepares graduates for careers in the vast data science industry. Graduates build robust foundations — with a focus on achieving personal and professional success — in the principles and practice of statistical techniques and computing technologies through the development of strong analytical, technical and professional skills.

Program Summary:

• Six (6) applied data science courses in math and stat concepts

• Nine (9) applied data science courses in computing science

• Two (2) one-year project courses

• One (1) communications course

Calendar Year	Summer	Fall
1	**TERM 1** • ADSC 1000 - Intro to Statistical Data Analysis • ADSC 1010 - Data Visualization and Manipulation through Scripting • COMP 1110 - Computer Programming • CMNS 1290 or CMNS 2290 (requires approval from Program Advisor) • ADSC 1910 - Introduction to Applied Data Science	**TERM 2** • ADSC 2020 - Regression of Applied Data Science • ADSC 2030 - Design for Data Science • ADSC 2110 - Introduction to Applied Data Science with Python • ADSC 2610 - Database Systems in Applied Data Science 1 • ADSC 2910 - Applied Data Science Integrated Practice 1
2	**TERM 3** • ADSC 3040 - Simulations for Modeling, Optimizing & Analysis • ADSC 3610 - Database Systems in Applied Data Science 2 • ADSC 3710 - Artificial Intelligence in Applied Data Science • ADSC 3910 - Applied Data Science Integrated Practice 2 • ADSC 3910 - Applied Data Science Project 1	**TERM 4** • ADSC 4050 - Multivariate Statistics for Applied Data Science • ADSC 4710 - Machine Learning in Applied Data Science • ADSC 4720 - Data Mining in Applied Data Science • ADSC 4910- Applied Data Science Integrated Practice 3 • ADSC 4920 - Applied Data Science Project 2

ADMISSION REQUIREMENTS

All applicants must provide proof of the following:

1. Degree requirements – Acceptable three- year or four-year undergraduate degree in any discipline with a minimum B average (GPA of 3.00 on a scale of 4.33 or local equivalent) in the last 60 credits.

2. Language requirements – Applicants who did not complete their undergraduate degree at an English language university in a country where English is the primary language should have:

    • A minimum TOEFL score of 587 with aTWE of 5.0 or higher (paper-based test), or a minimum score of 94 with no section below 20 (1ST), or

    • A minimum IEL TS score of at least 7.0 (with no band below 6.5), or

    • Completion of TRU ENGL 1100 and CMNS 1290 with a minimum grade B

ADMISSION CONTACTS

For information about applications and admissions:

Domestic students: **furturestudents@tru.ca**

International students: **iapply@tru.ca**

For questions about the program, contact **PB-ADS-coordinator@tru.ca**

> ***Apply today:*** tru.ca/**pbads**