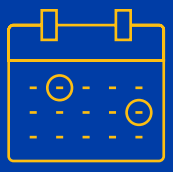
Digital Certificate in Predictive Analytics for CPAs

CPAONTARIO.CA

UNIVERSITY OF WATERLOO
SCHOOL OF ACCOUNTING AND FINANCE

CPA ONTARIO



FALL: SEPT 21 - OCT 26

WINTER: FEB 1 - MARCH 9

INSTRUCTOR LED SESSIONS

20 CPD HOURS OF BLENDED LEARNING

REGISTER EARLY TO RECEIVE 10% OFF

SHARPEN YOUR PREDICTIVE ANALYTICS SKILLS.

Expectations around data continue to increase at an exponential pace. Gaining the right skills to navigate complexity to make timely and informed decisions is vital for every business leader, particularly CPAs.

Simply being fluent in the language of data isn't enough. The true power of data comes from being able to turn insights into transformative decision making. When leveraged effectively, these insights provide elevated competitive advantage and stronger strategic direction.

Join us for a new digital certificate developed for CPAs. This partnership between the University of Waterloo and CPA Ontario gives participants the tools necessary to harness the power of data and build intelligent data-driven strategies. Position yourself for the future and gain confidence to lead with data.

WHO SHOULD ATTEND?

This certificate is designed for those who lead (or aspire to lead) individuals or teams that benefit or could benefit from the application of predictive analytics.

After completing this certificate, you will be able to have a deeper understanding of predictive analytics and will be able to plan and oversee the use of predictive analytics in your organization.

COURSE DETAILS - FALL TIMETABLE

WEEK	LIVE SESSION DATE	MODULE	DELIVERY METHOD	TOPICS
1	Wed. Sept 21, 2022 Program Kick-off Event** 9 - 9:30 a.m.	Access to Online Material Starts	Instructor-led	Introductions and overview; Course Overview & Expectations; Navigation of the LEARN system; Overview of requirements for live sessions
2	Wed. Sept 28, 2022 9 - 11 a.m.	Module 1: From Business Problem to Analytics Project with Simple Linear Regression	Self-paced* and instructor-led	Business and Data Understanding; Descriptive Statistics; Data Preparation; Basic Concepts for Simple Linear Regression, Case Study Practice
3	Wed. Oct 5, 2022 9 - 11 a.m.	Module 2: Predictive Analytics with Multiple Linear Regression	Self-paced* and instructor-led	Predictions using Regression Analysis; Data Visualization and Preparation; Modeling and Evaluation; Case Study Practice
4	Wed. Oct 12, 2022 9 - 11 a.m.	Module 3: Leveraging Domain Knowledge to Improve Models	Self-paced* and instructor-led	Introduction to Dummy Variables; Performance Management Application; Decision Support Application; Forecasting Application
5	Wed. Oct 19, 2022 9 - 10 a.m.	Module 4: Introduction to the Group Project**	Instructor-led	Project Overview & Expectations; Overview of requirements for presentations
6	Wed. Oct 26, 2022 9 - 11 a.m.	Group Project Presentations*	Group Project	Case materials; Group project deliverables

*self-paced includes pre-work before live session

**attendance is optional for weeks 1 and 5 only

COURSE DETAILS - WINTER TIMETABLE

WEEK	LIVE SESSION DATE	MODULE	DELIVERY METHOD	TOPICS
1	Wed. Feb 1, 2023 Program Kick-off Event** 2:30 - 3:00 p.m.	Access to Online Material Starts	Instructor-led	Introductions and overview; Course Overview & Expectations; Navigation of the LEARN system; Overview of requirements for live sessions
2	Wed. Feb 8, 2023 2:30 - 4:30 p.m.	Module 1: From Business Problem to Analytics Project with Simple Linear Regression	Self-paced* and instructor-led	Business and Data Understanding; Descriptive Statistics; Data Preparation; Basic Concepts for Simple Linear Regression, Case Study Practice
3	Wed. Feb 15, 2023 2:30 - 4:30 p.m.	Module 2: Predictive Analytics with Multiple Linear Regression	Self-paced* and instructor-led	Predictions using Regression Analysis; Data Visualization and Preparation; Modeling and Evaluation; Case Study Practice
4	Wed. Feb 22, 2023 2:30 - 4:30 p.m.	Module 3: Leveraging Domain Knowledge to Improve Models	Self-paced* and instructor-led	Introduction to Dummy Variables; Performance Management Application; Decision Support Application; Forecasting Application
5	Wed. Mar 1, 2023 2:30 - 3:30 p.m.	Module 4: Introduction to the Group Project**	Instructor-led	Project Overview & Expectations; Overview of requirements for presentations
6	Wed. Mar 8, 2023 2:30 - 4:30 p.m.	Group Project Presentations*	Group Project	Case materials; Group project deliverables

*self-paced includes pre-work before live session

**attendance is optional for weeks 1 and 5 only

INSTRUCTOR LED SESSIONS

1 GROUP PROJECT

SELF-PACED LEARNING ACTIVITIES

CASE STUDIES

DIGITAL CERTIFICATE UPON COMPLETION

WHAT YOU WILL LEARN

- Identify applications and limitations of predictive analytics
- Organize activities and resources required to complete a data analytics project using the industry standard process for data mining (CRISP-DM)
- Translate a business problem/question into a predictive analytics project description
- Compare the insights from and reliability of different forecasting models developed to answer the business question
- Evaluate the predictive accuracy of forecasting models

TESTIMONIALS:

"Phenomenal and Brilliant Instructors, great in imparting knowledge. Excellent course, smooth linkages and very much practically oriented"

- Chief Financial Officer

"...a great refresher of analytics capabilities in problem solving and decision making. Excelling in the broadening the entire CRISP-DM processes"

- Chief Administration Officer

"This has been one of the best learning experiences I have ever had...I have learned a lot that will help in my career. I would encourage everyone to take this course and I would be interested in more courses from the University of Waterloo."

- Senior Manager/Director

CASE STUDY EXAMPLE

During the course you will work through multiple case studies based on real world examples. These examples will give you an opportunity to learn and apply your predicative analytic skills.

Case study example: Retail Business Promotion Plan Analysis

This case study explores scenarios for a retail business that sells wine and liquor. The retailer operates 79 physical stores across 10 counties in one state. The data set contains sales transaction data for calendar years 2019 and 2020, and includes the daily units sold for each product in each store, the price per unit for each product and the physical size of each store in square feet.

The marketing group and a supplier have explored options for a promotional campaign to boost sales during the four-week period leading up to an upcoming holiday weekend. The supplier is willing to offer the retailer a discount on the purchase price of the products. Your analytics team has developed a predictive model for each of the products.

Should the marketing group trust the model that was developed? If there are limitations with the model, what are they? Based on the model, what is your advice for the marketing group?

COURSE AUTHORS AND INSTRUCTORS

Nancy Vanden Bosch, CPA, CA, CMA | Course Author, is the Stan Laiken Teaching Fellow in the School of Accounting and Finance at the University of Waterloo. Prior to joining the School as a faculty member, Nancy was a partner at Deloitte Consulting. She is a recipient of the University of Waterloo's Distinguished Teaching Award.

Theo Stratopoulos | Course Author and Instructor, is the PwC Chair and Associate Professor at SAF, teaching and researching on data analytics and emerging technologies. He has authored numerous articles and monographs on data analytics and blockchain. Theo is a member of the CPA Canada - Audit Data Analytics Committee and senior editor for Journal of Information Systems.

Bo Wang, CPA, CA, CFA, Bo Wang is vice-president, Tax & Treasury, at Cineplex Entertainment. He has been with Cineplex since 2013, where he has held various successive financial roles. Wang currently oversees the treasury and tax functions at Cineplex and leads the Automation Centre of Excellence – focused on utilizing robotic process automation (RPA), machine learning, and predictive analytics to drive process optimization and deliver data-driven insights.

Wang has acted as an adjunct professor at the University of Waterloo's School of Accounting and Finance. He is also a graduate from the University of Waterloo's Accounting and Financial Management, and Master of Accounting (MAcc) programs.

Will Xiang, CPA, CA, CITP, CAMS, Adjunct Professor, School of Accounting and Finance | Course Instructor, Will brings over 13 years of consulting experience gained through working in San Francisco, New York, and Toronto. Will has provided clients in the Americas, Europe, and AsiaPac with cybersecurity, data analytics, privacy security, and process optimization advisory services. Most recently, Will has worked for a multinational manufacturer in building predictive analytics around the risk management program.

DIGITAL CERTIFICATE

Upon successful completion of the program, you will earn a verified digital certificate from the University of Waterloo that will be emailed to you in the name you used when registering for the program. Your digital certificate can be shared with your professional and personal networks.

1. **How much preparation do I need to do before the course starts?**

   Upon registration, you will receive an email from the University of Waterloo welcoming you to the program and providing you the information on how to log on and access your program materials. Participants are encouraged to attend the Program Kick Off session, as they must come prepared to discuss the first module of content.

2. **To receive the certificate do I need to do a final exam?**

   To receive the certificate, participants must complete all homework as well as the group project. The project involves contributing to the development of a forecasting model, communicating insights from the model, and providing feedback and asking questions about the model.

3. **If I can't attend the April program will there be future certificates offered?**

   Yes, future certificates will be offered but there is currently no confirmed date for future programs. If you would like to be notified when the next course is open for registration please email pdevents@cpaontario.ca with your name and email and request to be on the notification list for the next certificate.

4. **How do I register for the Digital Certificate in Predictive Analytics for CPAs?**

   You can register for the Fall course here, and Winter course here. After you have registered through the CPA Ontario PD Portal and prior to the start of the course you will receive an email from the University of Waterloo welcoming you to the program and providing you with information on how to log in and access
   your program materials. You must follow the instructions in this email to access and participate in the program.

5. **If I am not a CPA can I still take the certificate?**

   Yes. The course is designed specifically for CPAs but is relevant for other financial professionals who want to enhance their data literacy and help their organizations gain a competitive advantage with valuable predictive analytic skills.

6. **Is there homework that needs to be completed outside of the live sessions?**

   Learners are expected to do readings and prepare before each live session. There will be individual assignments and a group presentation. While the workload will vary from week to week, students should anticipate investing 3-5 hours a week.

7. If I am away for a live session will it be recorded?

Yes. All the live virtual sessions will be recorded. However, this is a highly interactive course and missing the live virtual sessions may result in not getting the most out of the course. If you need to miss a live session, speak with your instructor about how to keep up with the course.

8. Is there any prerequisite knowledge I need to successfully complete this certificate program?

Students who enroll should be familiar with basic statistics concepts. Students will be asked to develop forecasts in Excel for a group project so comfort with Excel formula and functions will be a plus.

9. What happens if I can't attend the program after I register for it?

You may cancel your registration and receive a full refund up to seven (7) days in advance of the start of the program. Cancellations within seven (7) days of the program start date, or after the program has started, will incur a withdrawal service charge. Registration, cancellation, withdrawal and all other CPA Ontario PD Seminar policies can be found here. For greater clarity, the provisions herein, including this Cancellation Policy, take precedence in the event of a conflict over other provisions in CPA Ontario PD Seminar policies.

10. If I have more questions, who can I reach out?

For any questions, please contact CPA Ontario at pdevents@cpaontario.ca.