Digital Certificate in Predictive Analytics for CPAs
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?

CPAs and financial professionals who want to enhance their data literacy and help their organizations gain a competitive advantage with valuable predictive analytic skills:

- Managers or Directors interested in career advancement and gaining a deeper understanding of data analytics
- Executives who want to enhance their financial expertise, keeping up to date with the changing needs in data, analytics and insights
WHAT YOU WILL LEARN

Participants are required to log in on Tuesday, October 12, 2021 to prepare for the first live session on Monday, October 18, 2021.

<table>
<thead>
<tr>
<th>MODULE</th>
<th>DELIVERY METHOD</th>
<th>TOPICS</th>
<th>LIVE SESSION DATE</th>
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</thead>
<tbody>
<tr>
<td>From business problem to analytics</td>
<td>Self-paced* and instructor-led</td>
<td>Course introduction; Business understanding and data; Understanding as iterative steps; Applications using descriptive statistics; Applications using frequencies and probabilities</td>
<td>Monday Oct 18, 2021 2:30-4:30</td>
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<tr>
<td>Predictive analytics with regression</td>
<td>Self-paced* and instructor-led</td>
<td>Applications using simple linear regression models; Applications using multiple regression models</td>
<td>Monday Oct 25, 2021 2:30-4:30</td>
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<tr>
<td>Leveraging domain knowledge to improve models</td>
<td>Self-paced* and instructor-led</td>
<td>Adding qualitative data through dummy variables; Creating and interpreting new variables</td>
<td>Monday Nov 1, 2021 2:30-4:30</td>
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<tr>
<td>Group project: Financial forecasting challenge</td>
<td>Project presentations</td>
<td>Contributing to the development of a forecasting model; Communicating insights from the forecasting model; Providing feedback/asking questions about the forecasting model</td>
<td>Monday Nov 8, 2021 2:30-4:30</td>
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*self-paced to be completed in advance of the weekly live sessions
PROGRAM EXPERIENCE

KEY OUTCOMES

• Learn to interpret output from statistical analysis software, such as R, to make data-driven decisions

• Understand the ins and outs of data analytics: descriptive analytics, diagnostic analytics, predictive analytics and prescriptive analytics

• Make data-driven decisions by learning to integrate and analyze data from multiple sources

• Forecast for the future by leveraging financial and non-financial data, such as customer attributes and weather data, in your models

• Apply learnings through a real-time data analytics project, using the industry standard process for data mining (CRISP-DM)
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?
FACULTY

Nancy Vanden Bosch, CPA, CA, CMA, 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, 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.

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 with information on how to log on and access your program materials. Participants are expected to start the self-paced module on October 12, on their own, and come prepared to the first instructor-led session on October 18. Participants should have a basic understanding of descriptive statistics (e.g., MEAN, MEDIAN, MIN, MAX).

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 October 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.

You can register for the 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?
Yes. You can expect to do online group work and prepare the final presentation outside of the synchronous, instructor-led seminars.
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?
Participants should have a basic understanding of descriptive statistics (e.g., MEAN, MEDIAN, MIN, MAX). Participants do not need to know how to write code or use specific software applications.

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.