Seneca POLYTECHNIC

2025-2026

DATA ANALYTICS (DAS)

About the Program

This one-year graduate certificate program will provide you with the skills and analytical tools needed to drive data-informed decision-making across organizations. You will learn to identify and collect relevant data, prepare it for analysis, apply statistical and predictive techniques and communicate insights in clear, actionable formats. Key topics of study cover essential topics such as statistical analysis, programming for analytics, data security and privacy, predictive analytics and leadership in data driven environments.

Embedded throughout the program are topics that address ethical considerations such as fairness, accountability, transparency and the responsible use of AI technologies, ensuring graduates can navigate the rapidly evolving landscape of responsible data and algorithmic decision-making. Graduates of this program will be prepared to support organizations across a wide range of industries, including finance, healthcare, and government, as well as other high-demand sectors relying on data to drive operations, strategy, and decision-making.

Part-time option is available > (https://www.senecapolytechnic.ca/ce/business/management-human-resources/Business_analytics.html)

Credential Awarded

Ontario College Graduate Certificate

Duration

2 Semesters (8 months)

Starts

January, May, September

Program and Course Delivery

This program is offered online and is also available in Seneca's hybrid delivery format. With hybrid delivery, some coursework is online and some must be completed in person. Students choosing hybrid delivery will need to come on campus to complete in-person learning requirements.

Skills

Throughout this program you will develop the following skills:

- Evidence-based decision-making
- Programming and data manipulation
- Statistical, predictive, and machine learning modelling
- Application and evaluation of AI and machine learning algorithms
- Data visualization

Work Experience

Optional Work Term

This program offers the option to complete a work term, providing valuable hands-on experience in your field of study.

Students who select the work term stream will have the opportunity to participate in a work term(s) if eligibility requirements are maintained. Students will have the flexibility to transfer to the non-work term stream at any time. The work term(s) is similar in length to an academic semester and is typically a full-time position that may be paid or unpaid. The work term job search is student-driven and participation in the work term stream does not guarantee that a work position will be secured. However, students will receive guidance and support through in-class career workshops and one-on-one coaching to help prepare for the work term.

Review eligibility requirements for work-integrated learning (https://www.senecapolytechnic.ca/employers/seneca-works/work-integrated-learning/eligibility.html)

If you are interested in completing a work term, apply to the **Data Analytics (Work Term) (DASC)** program.

Your Career

As a graduate of this program, you may find employment in a diverse range of corporations and government organizations that have large, rich data sets and resources to mine data. You may pursue future career options, such as:

- Business analyst
- Business system analyst
- Computer system analyst
- Data analyst
- Data associate
- Data consultant
- Data specialist
- Information systems business analyst

Accreditation

Graduates will be eligible to receive the SAS Academic Specialization.

Program of Study

Course Code	Course Name	Weekly Hours
Semester 1		
DAS100	Statistics for Analytics	4
DAS110	Data Preparation and Handling	3
DAS120	Analytics Case Studies	3
DAS130	Programming for Analytics	4
DAS140	Introduction to Data Visualization	3
DAS150	Strategic Leadership in Data Analytics	3
Semester 2		
DAS200	Sentiment Analysis and Text Mining	3
DAS210	Predictive Analytics	3
DAS220	Security, Privacy and Ethics for Data Analytics	3
DAS230	Applied Data Mining and Modelling	3
DAS240	Data Analytics Consulting Capstone Project	6
DAS250	Machine Learning in Analytics	4
WTP100	Work Term Preparation *	1
Work-Integrated Learning Term		
DAS441	Data Analytics, Work Term *	30

* Work-Integrated Learning option - DASC only

Program Learning Outcomes

This Seneca program has been validated by the Credential Validation Service as an Ontario College Credential as required by the Ministry of Colleges and Universities.

As a graduate, you will be prepared to reliably demonstrate the ability to:

- Collect, manipulate, and interpret qualitative and quantitative data to meet organizational needs.
- Communicate data analytics outcomes and business intelligence solutions to ensure that invested parties are well-informed and can make strategic decisions based on evidence.
- Create data analytics reports, dashboards and data visualization to synthesize information for internal and external audiences.
- Leverage data-informed insights to contribute to evidence-based decision-making processes.
- Prepare and analyze data sets to support organizational decision-making.
- Conduct statistical analysis on mined data sets to guide evidence-informed decisions.
- Implement machine learning and artificial intelligence-based models to support data-driven decision-making in predictive analytics.
- Adhere to ethical practices in data privacy, security, and algorithm use to ensure compliance with regulations and maintain information integrity.
- Lead cross-functional teams to achieve project objectives in diverse organizational settings.

Admission Requirements

- Ontario university/college degree, college diploma or equivalent.
- Applicants with an equivalent combination of partial postsecondary and/or significant relevant work experience may be considered for admission. A relevant resumé and references must be provided.
- English proficiency (https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/english-proficiency.html) for graduate certificates.

Canadian citizens or permanent residents educated outside of Canada must provide a World Education Services (WES) or ICAS Canada credential evaluation.

International Student Information

International admissions requirements vary by program and in addition to English requirements (https://www.senecapolytechnic.ca/international/apply/how-to-apply/admission-requirements/english-requirements.html), programs may require credits in mathematics, biology, and chemistry at a level equivalent to Ontario's curriculum, or a postsecondary degree or diploma, equivalent to an Ontario university or college. Program-specific pre-requisite courses and credentials are listed with the admission requirements on each program page. To review the academic requirements please visit: Academic Requirements - Seneca, Toronto, Canada (senecapolytechnic.ca) (https://www.senecapolytechnic.ca/international/apply/how-to-apply/admission-requirements/academic-requirements.html).

Pathways

As a leader in academic pathways, we offer a range of options that will allow you to take your credential further in another Seneca program or a program at a partner institution.

To learn more about your eligibility, visit the Academic Pathways (https://www.senecapolytechnic.ca/pathways.html) web page.

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