DATABASE APPLICATION DEVELOPER (DAD)

About the Program

This one-year graduate certificate will teach you how to design, test and implement databases on a variety of local or cloud operating platforms and work with Big Data. You will also learn how to create desktop or web-based database applications using object-oriented languages. In an applied capstone project, you will use industry practices and tools to design, test and implement a distributed database application. This program offers an optional work term for those who meet all academic requirements.

Credential Awarded

Ontario College Graduate Certificate

Duration

2 Semesters (1 Year)

Starts

January, September

Program and Course Delivery

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

Skills

Throughout this program you will develop the following skills:

- analyze system requirements for applications
- implement logical database design
- program computer applications
- develop database applications
- perform basic database administration functions, including backup and recovery
- utilize web technologies in computer applications
- develop on-premise and cloud database solutions
- work with Big Data
- construct data warehousing
- apply Agile methodologies for software development

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)

Work-Integrated Learning Model

Year	September	January	May
Year 1	Semester 1	Semester 2	Work Term

Your Career

Graduates of the program can explore the following career options:

- Database developer
- Database web programmer
- Database analyst
- Data administrator

Program of Study

Course Code	Course Name	Weekly Hours
Semester 1		
DES720	Relational Database Design and Implementation	6
JAV745	Java Programming	4
OPS705	Introduction to Cloud Computing	4
SQL710	Database Administration and Management	4
WEB700	Web Programming	4
Semester 2		
CAP805	Applied Capstone Project	4
CJV805	Advanced Web Programming Using Java	4
DBD800	Accessing Big Data	3
DBW825	Datawarehousing	4
SEC835	Security in Databases and Web Applications	4
WTP100	Work Term Preparation [*]	1
Work-Integrated Learning Term		
DAD441	Database Application Developer, Work Term [*]	30

* Work-Integrated Learning option 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:

- Analyze system requirements for business computer applications.
- Work and communicate as a member of a team in the design, development and implementation of computerized business applications.

- Construct a logical and physical database design given a client's system requirements.
- Implement a simple database application using popular relational database application software.
- Program computer applications using an object-oriented programming language.
- Develop specific business applications using a multi-tier architecture.
- Modify deployed applications using industry standard system architectures and frameworks.
- Perform basic database administration functions, including backup and recovery, and network administration.
- Implement database applications using an enterprise-level relational database product.
- Apply knowledge of data warehousing, data marts, and data mining to gather and summarize decision making information.
- Employ web technologies in database application implementation and support.
- Work effectively in web and distributed operating system environments.

Admission Requirements

- Ontario university or college degree or college diploma or equivalent in computer programming, software development or related discipline.

  Applicants with a degree or diploma in a non-related field with two years IT-related work experience (or with completion of computer programming courses) will be considered for admission.

  Applicants with significant related work experience that is the equivalent of the above may be considered for Admission. A relevant resume and references must be provide.

- 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.

Additional Information

Although not required for admission, applicants should possess good logic, aptitude for programming and reasoning skills.

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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