Edison College Canada
SINCE 1973
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Information Kit

Artificial Intelligence

Diploma

56 Weeks Program

Program Duration:
56 weeks/1120 Hours

Delivery Methods:
In-Class or Online

Campus Location:
Victoria, BC

Program Description

This Artificial Intelligence Diploma Program is carefully crafted to provide hands-on training to students in this fast-emerging field. The demand for skilled AI professionals is rapidly increasing as industries increasingly adopt artificial intelligence (AI) technologies.

This artificial intelligence program provides a comprehensive education in AI and data technologies, preparing students for dynamic roles in the AI-driven job market.

The program covers foundational concepts and advanced technical skills, including machine learning, deep learning, natural language processing, and computer vision. Students will gain hands-on experience with cutting-edge tools and frameworks such as TensorFlow, PyTorch, and Power BI.

Career Opportunities

- AI Consultant
- Machine Learning Engineer
- Data Scientist
- AI Research Scientist
- Robotics Engineer
- Natural Language Processing (NLP)

Estimated Salary

People who have a diploma in artificial intelligence typically earn in the range of $72,800 to $190,000 annually, according to the Canadian Job Bank.

The wage range of artificial intelligence professionals is from $35.00 to $91.35 per hour. However, your salary will mainly depend on your experience and the province where you work.

Artificial Intelligence Diploma

Salary Range

$72,800 - $190,000

Admission Requirements

High school graduate or equivalent or mature student status (19 years or older before starting the program).

Meet one of the following English language Proficiency requirements:

Minimum Grade 10 English plus a minimum of three years of full-time instruction in English completed in a country where English is one of the principal languages.

Overall minimum IELTS (Academic) score of 5.5, or

Overall minimum TOEFL score of 46 (only TOEFL iBT is accepted), or

Overall minimum CAEL score of 40, or

Overall minimum CELPIP score of listening 6, reading 5, and writing 5, or

Overall minimum Duolingo English Test (DET) score of 95.

The Accuplacer assessment may be accepted only under the following conditions:

English is the program's language of instruction, or

The applicant is a mature domestic student facing barriers, and the applicant cannot access their educational records or cannot provide sufficient evidence of secondary or post-secondary education.

The applicant provides attestation that they have completed at least three years of full-time instruction in English in a country where English is one of the principal languages.

The applicant provides a signed self-declaration.

The applicant completes an Accuplacer English Assessment and achieves the following minimum scores: Minimum overall reading 235 and writing 235, and WritePlacer: 4.

The Canadian transcript showing completion of math (grade 10, 11, or 12), or

The Math Entrance Test/General Math with the passing score of 50%

Courses

AI Ethics and Data Governance
This course introduces the ethical considerations and governance frameworks crucial for responsible AI development. Students will explore topics such as algorithmic bias, transparency, accountability, and privacy, as well as the societal implications of AI. Emphasis is placed on data governance practices, including ensuring data quality, security, and regulatory compliance. Case studies and discussions will help students develop practical strategies for ethical AI implementation and robust data management.

Big Data Analytics
This course introduces the fundamental concepts of big data analytics, focusing on tools and techniques for processing and analyzing large datasets. Students will explore distributed frameworks like Hadoop and Spark and data storage solutions such as HDFS and NoSQL and gain hands-on experience with PySpark. Students will understand the full big data lifecycle, from data ingestion and preprocessing to analysis and visualization.

Capstone Project
This capstone project serves as the culmination of the program, allowing students to apply their skills to develop a comprehensive AI solution. Students will undertake an end-to-end project that includes problem definition, data collection, preprocessing, model selection, and deployment of AI models. The project emphasizes practical problem-solving, teamwork, and presentation skills, requiring students to document their process and demonstrate their solution in a professional setting.

Career Prep
This course is designed to equip students with the skills and knowledge needed to transition effectively into the AI job market. Students will learn how to craft professional resumes, write compelling cover letters, and optimize their LinkedIn profiles. The course also covers essential job search strategies and interview preparation. Through mock interviews and networking tips, students will build confidence and develop a clear career plan tailored to the AI industry.

Computer Vision Basics
This course introduces the foundational concepts and practical applications of computer vision. Students will learn key techniques such as image acquisition, filtering, feature detection, and object recognition. Topics include motion analysis, facial recognition, and augmented reality. Through hands-on projects using tools like OpenCV and Python, students will gain the skills needed to develop computer vision solutions for real-world challenges.

Data Science basics
This course introduces students to the core principles and tools of data science, focusing on data preparation, analysis, and visualization. Students will explore the processes of data collection, cleaning, and preprocessing, followed by exploratory data analysis (EDA) to uncover patterns and insights. The course covers essential Python libraries, including Pandas, NumPy, and Matplotlib, to handle datasets, perform statistical analysis, and create meaningful visualizations. Through practical exercises and projects, students will gain hands-on experience in working with real-world datasets.

Data Visualization Techniques
This course introduces the fundamental principles and advanced tools for visualizing data effectively. Students will learn to transform raw data into impactful visual representations using charts, graphs, and dashboards. The course covers essential concepts such as data preprocessing, exploratory data analysis (EDA), and selecting appropriate visualization types for various datasets. Advanced topics include creating professional dashboards with tools like Power BI and Tableau. Students will also develop the skills to build dynamic and interactive visualizations, effectively communicating insights in real-world scenarios.

Database Management
This course provides a comprehensive introduction to database management systems, focusing on the design, implementation, and administration of relational databases. Students will explore data modeling techniques, including Entity-Relationship (ER) diagrams, normalization processes, and Structured Query Language (SQL) for database querying and manipulation. Emphasis is placed on practical skills in designing, maintaining, and securing databases. Hands-on projects will reinforce the development of efficient and scalable database solutions.

Deep Learning Essentials
This course provides a focused introduction to deep learning, emphasizing practical skills and foundational knowledge. Students will explore core concepts such as neural network architectures, activation functions, and forward/backpropagation. The course covers advanced techniques, including Convolutional Neural Networks (CNNs) for image recognition, Recurrent Neural Networks (RNNs) for sequence modeling, and Autoencoders for data compression. Practical applications in computer vision, natural language processing, and recommendation systems will be highlighted. Students will gain hands-on experience using TensorFlow and PyTorch to design, train, and optimize deep learning models, preparing them to implement AI-driven solutions across various industries.

Introduction to Artificial Intelligence
This course provides a comprehensive introduction to Artificial Intelligence (AI), covering its history, core concepts, and real-world applications. Students will learn about the different types of AI, fundamental search algorithms, and the basics of machine learning, including key concepts like representation, evaluation, and optimization.

Machine Learning Fundamentals

This course provides a comprehensive introduction to machine learning, covering key concepts such as supervised and unsupervised learning, model evaluation, and techniques to prevent overfitting. Students will gain practical experience with essential algorithms like linear regression, decision trees, and clustering, learning to implement and fine-tune models using industry-standard tools. The course emphasizes both theoretical foundations and hands-on applications, offering a strong base for understanding and applying machine learning in various AI-driven scenarios.

Mathematics for AI

This course provides a comprehensive foundation in the essential mathematical concepts underpinning artificial intelligence (AI). Students will explore topics including linear algebra, calculus, probability theory, and statistics, all tailored to AI applications. Emphasis is placed on understanding mathematical principles that drive machine learning algorithms, neural networks, and data analysis techniques. Through practical exercises and problem solving, students will develop the quantitative skills necessary to implement and comprehend AI models effectively.

Natural Language Processing

This course provides a comprehensive introduction to natural language processing, focusing on foundational concepts and practical applications. Students will learn essential NLP techniques such as text preprocessing, tokenization, word embedding, and Named Entity Recognition (NER) for extracting meaningful information from text data. The course covers advanced topics including syntactic and semantic analysis, language models, and machine learning algorithms for NLP tasks. Practical applications such as sentiment analysis, chatbot development, text classification, and NER will be explored. Hands-on projects and exercises using tools like Python, NLTK, SpaCy, and TensorFlow will prepare students to implement real-world NLP solutions across various industries.

Programming Fundamentals

This course introduces students to the foundational principles of programming, focusing on Python and Java. It covers core topics such as variables, data types, control structures, functions, and data structures. Students will also learn the basics of object-oriented programming (OOP), including concepts like classes, objects, inheritance, and polymorphism. Emphasis is placed on developing problem-solving skills, debugging techniques, and writing clean, efficient code. Through hands-on exercises and projects, students will gain practical experience in building and testing programs, providing a strong foundation for future AI and data science courses.

Software Tools and Emerging Technologies for AI

This course introduces essential software tools and technologies driving advancements in Artificial Intelligence (AI). Students will explore source code management systems, project design tools, and collaboration platforms widely used in AI development. The course also covers key frameworks like TensorFlow and PyTorch along with data analysis libraries such as Pandas and NumPy. Through hands-on exercises, students will learn to integrate and apply these tools effectively in AI projects, preparing them to leverage emerging technologies for real-world AI applications.

Web Technologies

This course introduces students to the fundamental concepts of web development and its applications in AI-driven solutions. Students will learn essential web technologies, including HTML, CSS, and JavaScript, to build and structure interactive web pages. The course also covers server-side programming basics with PHP, enabling data exchange between web applications and AI models. Emphasis is placed on understanding how web technologies integrate with AI frameworks, allowing students to create web-based interfaces for AI-powered applications.

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