

Al for UBC IT Professionals: Student Guide

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The AI for UBC IT Professionals program is a fully online suite of 20 stackable micro-courses developed by Extended Learning to meet the urgent demand for AI expertise in BC's IT and technology sectors. Aligned with UBC IT's AI Competencies Framework, the program equips professionals with key skills in AI, machine learning, data literacy, automation, governance, cybersecurity, and enterprise integration.

Designed for IT professionals in both managerial and technical roles at any career stage, the program offers seven core tracks with courses at Introductory, Proficient, and Mastery levels, culminating in a work-integrated capstone. Participants can choose micro-courses based on their role, stream, interests, and proficiency, with sample pathways provided below.

The program objectives are as follows:

- Equip professionals with essential knowledge and practical skills in AI-related topics
- Enable learners to progress through tiers based on existing expertise and career goals
- Emphasize both foundational knowledge and practical skills

For Registration Information, visit https://extendedlearning.ubc.ca/areas-study/technology/ai-for-ubc-it-professionals.



Target Learners

This program is designed for the following two distinct professional profiles.

Technical Professionals

- Developers, system architects, IT specialists, and cybersecurity analysts needing handson AI implementation and integration skills
- Professionals looking to build expertise in data literacy, machine learning, real-time threat detection, and Al-driven cybersecurity
- IT staff aiming to apply AI in real-world business processes, progressing from foundational to mastery-level

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 Individuals seeking flexible, stackable micro-courses (1 to 2 weeks) for rapid upskilling while working full-time

Non-Technical Professionals

- Managers, executives, and decision-makers needing to understand Al's strategic, ethical, and governance impacts
- Leaders overseeing AI integration into planning, risk management, and business optimization
- Support staff involved in AI projects who need foundational knowledge in AI and ethical frameworks
- Learners interested in AI policy, risk, and societal impact, with pathways from introductory to advanced levels

Additional Audiences

- Organizations and teams seeking customized group training aligned with strategic goals
- Professionals at all stages of their AI journey—from beginners to those seeking specialized mastery (e.g., AI governance, cybersecurity)
- Individuals preferring a flexible, online format with live expert-led sessions for engagement and accessibility



Program Structure

The program is designed based on the AI competencies identified by UBC IT, and consists of 7 core tracks with 2 to 3 micro-courses per track based on the level of proficiency (Introduction, Proficient and Mastery).

The program consists of 20 stackable micro-courses and is designed to be completed within 12 to 18 months. Learners will receive a course completion document for each completed micro-course.

Note: A proposed UBC Certificate in AI for IT Professionals (name subject to change) will be submitted for Senate approval. Learners who complete at least 10 micro-courses and the Capstone will be eligible for the certificate, pending anticipated Senate approval in 2025.

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List of Tracks and Micro-Courses

The micro-courses for each core track are detailed in the following table.

Core Tracks	Micro-Course 1: Introduction	MIcro-Course 2: Proficient	Micro-Course 3: Mastery
Al Foundations	Introduction to AI Concepts and Tools (AFN10)	Applying AI in Business Processes (AFN20)	AI Strategies for Organizational Impact (AFN30)
Al for Strategic Decision Making and Management	Introduction to AI-Driven Decision-Making (BSD10)	Strategic Planning with Al Insights (BSD20)	Advanced AI Architecture and Risk Management (BSD30)
Data Literacy for Al	CDL10 Foundations of Data Literacy for AI (CDL10)	CDL20 Data Analytics and Machine Learning Techniques (CDL20)	n/a
Al Automation and Process Improvement	n/a	Implementing AI Tools for Workflow Optimization (DAP20)	Mastering Automation with Advanced Al Techniques (DAP30)
Al Policy and Governance, Risk Management	Introduction to AI Governance Frameworks (EPG10)	Developing Ethical AI Strategies (EPG20)	Advanced Governance and Risk Management Practices (EPG30)
Integrating AI into the Enterprise	n/a	Designing Workflows with AI Integration (FENT20)	Scaling Enterprise-Wide Al Solutions (FENT30)
Cybersecurity and Al	Introduction to AI in Cybersecurity (GCY10)	Implementing Real-Time Threat Detection (GCY20)	Advanced Cyber Defense Strategies with AI (GCY30)
Work Integrated Learning (Capstone) - Technical	n/a	Applying Knowledge to Real-World Challenges (HCAP20)	Presenting Advanced AI Solutions (HCAP30)

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Micro-Course Structure and Weekly Activities

Each micro-course is designed to be completed in two weeks consisting of approximately 14 hours of learning activities. There is a weekly Zoom live session taught by subject matter experts with a high degree of personal engagement and interactivity. All sessions are recorded in case you miss one.

This is an example of the weekly activities:

Week 1: Learn and Explore (~8 hours)

- Log into Canvas and review the Getting Started section which will provide details on the micro-course and the dates and times for the Zoom Live Session.
- Review the Assignment requirements and deadlines
- Complete the learning modules, short video lectures and accompanying course materials
- Attend 1.5-hour *Live Session 1* over Zoom (Date/Time: TBD)
- Participate and complete graded hands-on discussions and activities
- Prepare for the mini-Capstone Project

Week 2: Apply and Reflect (~6 hours)

- With the knowledge you have acquired, begin working on the mini–Capstone Project Assignment
- Apply what you've learned with a real-world IT use case
- Attend 1.5-hour *Live Session 2* over Zoom (Date/Time: TBD)
- Complete the final quiz
- Submit the mini-Capstone Project Assignment by the deadline
- Complete the course evaluation

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Live Sessions and Code of Conduct

Each micro-course will have two weekly 1.5 hour live sessions held over Zoom. We highly recommend you attending as these sessions are led by subject matter experts who will provide real-world scenarios and examples with interactive discussion and Q/A. All sessions are recorded in case you miss one. Check the Extended Learning registration page for exact date and times.

Live sessions offer valuable opportunities for engagement but require responsible participation from all. Everyone in the course is expected to engage respectfully, thoughtfully, and with an open mind.

The online space is designed to be a supportive and collaborative learning environment. We encourage you to assist and uplift one another, sharing experiences constructively. Please remember that it is not a forum for judgment or criticism, but a space to enhance learning through mutual support.

Note: When you enroll in the course, you agree to adhere to the UBC Student Code of Conduct.



Al Foundations Introductory and Proficient micro-courses are required courses to ensure you have the essential knowledge needed for micro-courses in subsequent tracks.

Note: UBC IT staff who have completed the Extended Learning *UBC Micro-certificate in Artificial Intelligence Cloud Solutions Strategy* will have fulfilled the requirements for the full AI Foundations Core track. Provide Extended Learning with your digital credential upon registration.

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While you can tailor the learning pathway to best fit your role, we have provided three pathway types based on the learning audience and objectives as detailed in the table below.

Learning Pathway Types

Pathway	Audience	Objectives
Managerial	IT Managers, Project Coordinators, Product Managers	Focuses on strategy, governance, data, and foundational technical awareness
Technical	Software Developers, Data Engineers, Cybersecurity Analysts, IT Support	Emphasizes hands-on AI, automation, integration, and security
Senior Leadership	CIO, Senior IT Leaders	Focuses on strategy, governance, advanced decision-making, and broad AI literacy

Recommended Micro-Courses Based on Learning Pathway Types

The examples below illustrate the recommended sequence of micro-courses to complete based on the learning pathways above. For the recommended pathways based on specific personas and job titles, please refer to Appendix A and Appendix B.

In general, it is recommended to complete the micro-courses in sequential order within a given track before moving on to the next. Each micro-course requires approximately 14 hours of learning, with each pathway totaling a minimum of 150 hours.

Note: UBC Non-Credit Certificate eligibility requires completion of a minimum of 10 microcourses and the final work-integrated capstone.



A. Managerial Pathway

Audience: IT Managers, Project Coordinators, Product Managers

Objectives: Focuses on strategy, governance, data, and foundational technical awareness

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to AI Concepts and Tools (AI Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	Al Strategies for Organizational Impact (Al Foundations - Mastery AFN30)
4	Introduction to Al-Driven Decision-Making (Al Strategic Decision - Introduction BSD10)
5	Strategic Planning with AI Insights (AI Strategic Decision - Proficient BSD20)
6	Advanced AI Architecture and Risk Management (AI Strategic Decision - Mastery BSD30)
7	Foundations of Data Literacy for AI (Data Literacy for AI - Introduction CDL10)
8	Data Analytics and Machine Learning Techniques (Data Literacy for AI - Proficient CDL20)
9	Introduction to AI Governance Frameworks (AI Policy & Governance - Introduction EPG10)
10	Developing Ethical AI Strategies (AI Policy & Governance - Proficient EPG20)
11	Introduction to AI in Cybersecurity (Cybersecurity and AI - Introduction GCY10)
12	Applying Knowledge to Real-World Challenges (Capstone - Proficient HCAP20)



B. Technical Pathway

Audience: Software Developers, Data Engineers, Cybersecurity Analysts, IT Support

Objectives: Emphasizes hands-on AI, automation, integration, and security

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to AI Concepts and Tools (AI Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	Al Strategies for Organizational Impact (Al Foundations - Mastery AFN30)
4	Foundations of Data Literacy for AI (Data Literacy for AI - Introduction CDL10)
5	Data Analytics and Machine Learning Techniques (Data Literacy for AI - Proficient CDL20)
6	Implementing AI Tools for Workflow Optimization (AI Automation - Proficient DAP20)
7	Mastering Automation with Advanced Al Techniques (Al Automation - Mastery DAP30)
8	Designing Workflows with AI Integration (Integrating AI - Proficient FENT20)
9	Scaling Enterprise-Wide Al Solutions (Integrating Al - Mastery FENT30)
10	Implementing Real-Time Threat Detection (Cybersecurity and AI - Proficient GCY20)
11	Advanced Cyber Defense Strategies with AI (Cybersecurity and AI - Mastery GCY30)
12	Applying Knowledge to Real-World Challenges (Capstone - Proficient HCAP20)



C. Senior Leadership Pathway

Audience: CIO, Senior IT Leaders

Objectives: Focuses on strategic, governance, advanced decision-making, and broad AI literacy

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to Al Concepts and Tools (Al Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	Al Strategies for Organizational Impact (Al Foundations - Mastery AFN30)
4	Introduction to AI-Driven Decision-Making (AI for Strategic Decision Making and Management - Introduction BSD10)
5	Strategic Planning with Al Insights (Al for Strategic Decision Making and Management - Proficient BSD20)
6	Advanced AI Architecture and Risk Management (AI for Strategic Decision and Management - Mastery BSD30)
7	Foundations of Data Literacy for AI (Data Literacy for AI - Introduction CDL10)
8	Data Analytics and Machine Learning Techniques (Data Literacy for AI - Proficient CDL20)
9	Introduction to Al Governance Frameworks (Al Policy & Governance - Introduction EPG10)
10	Developing Ethical AI Strategies (AI Policy & Governance - Proficient EPG20)
11	Advanced Governance and Risk Management Practices (Al Policy & Governance - Mastery EPG30)
12	Introduction to AI in Cybersecurity (Cybersecurity and AI - Introduction GCY10)
13	Implementing Real-Time Threat Detection (Cybersecurity and AI - Proficient GCY20)
14	Presenting Advanced Al Solutions (Capstone - Mastery HCAP30)

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Appendix A: Student Personas

Here are examples of student personas based on roles. We have provided recommendations for learning pathways in the Appendix B based on these example student personas.

Role	Background	Needs
IT Manager	10+ years in IT management	Understanding Al's impact on IT operations, governance, and strategic planning
Software Developer	5 years of software development experience	Practical skills in AI development and integration
IT Support Specialist	3 years in IT support	Knowledge of Al-powered support tools and introduction Al concepts
Cybersecurity Analyst	7 years in IT security	Advanced understanding of AI in cybersecurity
Senior Leadership	15+ years in IT leadership	Strategic understanding of Al's impact on business and IT
IT Project Coordinator	5+ years of experience coordinating IT or digital projects, often in cross-functional teams.	Oversee AI project delivery, ensure compliance, manage cross-functional teams
Data Engineer	3+ years in data engineering, analytics, or software development roles.	Build and maintain Al data pipelines, ensure data quality, support ML deployment
Service Desk Lead	5+ years in IT support or service management, with experience leading a team or overseeing service desk operations t	Implement AI-powered support tools, automate workflows, monitor AI service impact

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Appendix B: Recommended Pathways Based on Full List of Personas

Student Persona A: IT Manager

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to AI Concepts and Tools (AI Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	AI Strategies for Organizational Impact (AI Foundations - Mastery AFN30)
4	Introduction to AI-Driven Decision-Making (AI Strategic Decision - Introduction BSD10)
5	Strategic Planning with Al Insights (Al Strategic Decision - Proficient BSD20)
6	Advanced AI Architecture and Risk Management (AI Strategic Decision - Mastery BSD30)
7	Introduction to Al Governance Frameworks (Al Policy & Governance - Introduction EPG10)
8	Developing Ethical AI Strategies (AI Policy & Governance - Proficient EPG20)
9	Advanced Governance and Risk Management Practices (Al Policy & Governance - Mastery EPG30)
10	Introduction to AI in Cybersecurity (Cybersecurity and AI - Introduction GCY10)
11	Implementing Real-Time Threat Detection (Cybersecurity and AI - Proficient GCY20)
12	Applying Knowledge to Real-World Challenges (Capstone - Proficient HCAP20)
13	[if senior leadership role] Presenting Advanced Al Solutions (Capstone - Mastery HCAP30)

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Student Persona B: Software Developer

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to AI Concepts and Tools (AI Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	Al Strategies for Organizational Impact (Al Foundations - Mastery AFN30)
4	Designing Workflows with AI Integration (Integrating AI - Proficient FENT20)
5	Scaling Enterprise-Wide AI Solutions (Integrating AI - Mastery FENT30)
6	Implementing AI Tools for Workflow Optimization (AI Automation - Proficient DAP20)
7	Mastering Automation with Advanced AI Techniques (AI Automation - Mastery DAP30)
8	Introduction to Al Governance Frameworks (Al Policy & Governance - Introduction EPG10)
9	Developing Ethical AI Strategies (AI Policy & Governance - Proficient EPG20)
10	Advanced Governance and Risk Management Practices (Al Policy & Governance - Mastery EPG30)
11	Introduction to AI in Cybersecurity (Cybersecurity and AI - Introduction GCY10)
12	Implementing Real-Time Threat Detection (Cybersecurity and AI - Proficient GCY20)
13	Applying Knowledge to Real-World Challenges (Capstone - Proficient HCAP20)

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Student Persona C: IT Support Specialist

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to Al Concepts and Tools (Al Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	Al Strategies for Organizational Impact (Al Foundations - Mastery AFN30)
4	Designing Workflows with Al Integration (Integrating Al - Proficient FENT20)
5	Scaling Enterprise-Wide AI Solutions (Integrating AI - Mastery FENT30)
6	Implementing AI Tools for Workflow Optimization (AI Automation - Proficient DAP20)
7	Mastering Automation with Advanced Al Techniques (Al Automation - Mastery DAP30)
8	Introduction to Al Governance Frameworks (Al Policy & Governance - Introduction EPG10)
9	Developing Ethical AI Strategies (AI Policy & Governance - Proficient EPG20)
10	Advanced Governance and Risk Management Practices (Al Policy & Governance - Mastery EPG30)
11	Introduction to AI in Cybersecurity (Cybersecurity and AI - Introduction GCY10)
12	Implementing Real-Time Threat Detection (Cybersecurity and AI - Proficient GCY20)
13	Applying Knowledge to Real-World Challenges (Capstone - Proficient HCAP20)

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Student Persona D: Cybersecurity Analyst

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to AI Concepts and Tools (AI Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	Al Strategies for Organizational Impact (Al Foundations - Mastery AFN30)
4	Introduction to Al-Driven Decision-Making (Al Strategic Decision - Introduction BSD10)
5	Strategic Planning with AI Insights (AI Strategic Decision - Proficient BSD20)
6	Advanced AI Architecture and Risk Management (AI Strategic Decision - Mastery BSD30)
7	Introduction to Al Governance Frameworks (Al Policy & Governance - Introduction EPG10)
8	Developing Ethical AI Strategies (AI Policy & Governance - Proficient EPG20)
9	Advanced Governance and Risk Management Practices (Al Policy & Governance - Mastery EPG30)
10	Introduction to AI in Cybersecurity (Cybersecurity and AI - Introduction GCY10)
11	Implementing Real-Time Threat Detection (Cybersecurity and AI - Proficient GCY20)
12	[if senior leadership role] Advanced Cyber Defense Strategies with AI (Cybersecurity and AI - Mastery GCY30)
13	Applying Knowledge to Real-World Challenges (Capstone - Proficient HCAP20)
14	[if senior leadership role] Presenting Advanced Al Solutions (Capstone - Mastery HCAP30)



Student Persona E: Senior Leadership

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to AI Concepts and Tools (AI Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	Al Strategies for Organizational Impact (Al Foundations - Mastery AFN30)
4	Introduction to Al-Driven Decision-Making (Al Strategic Decision - Introduction BSD10)
5	Strategic Planning with AI Insights (AI Strategic Decision - Proficient BSD20)
6	Advanced AI Architecture and Risk Management (AI Strategic Decision - Mastery BSD30)
7	Introduction to AI Governance Frameworks (AI Policy & Governance - Introduction EPG10)
8	Developing Ethical AI Strategies (AI Policy & Governance - Proficient EPG20)
9	Advanced Governance and Risk Management Practices (Al Policy & Governance - Mastery EPG30)
10	Introduction to AI in Cybersecurity (Cybersecurity and AI - Introduction GCY10)
11	Implementing Real-Time Threat Detection (Cybersecurity and AI - Proficient GCY20)
12	Applying Knowledge to Real-World Challenges (Capstone - Proficient HCAP20)
13	Presenting Advanced Al Solutions (Capstone - Mastery HCAP30)

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Student Persona F: Project Coordinator

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to Al Concepts and Tools (Al Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	Al Strategies for Organizational Impact (Al Foundations - Mastery AFN30)
4	Introduction to Al-Driven Decision-Making (Al Strategic Decision - Introduction BSD10)
5	Strategic Planning with AI Insights (AI Strategic Decision - Proficient BSD20)
6	Advanced AI Architecture and Risk Management (AI Strategic Decision - Mastery BSD30)
7	Introduction to Al Governance Frameworks (Al Policy & Governance - Introduction EPG10)
8	Developing Ethical AI Strategies (AI Policy & Governance - Proficient EPG20)
9	Advanced Governance and Risk Management Practices (Al Policy & Governance - Mastery EPG30)
10	Introduction to AI in Cybersecurity (Cybersecurity and AI - Introduction GCY10)
11	Implementing Real-Time Threat Detection (Cybersecurity and AI - Proficient GCY20)
12	Applying Knowledge to Real-World Challenges (Capstone - Proficient HCAP20)



Student Persona G: Data Engineer

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to Al Concepts and Tools (Al Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	Al Strategies for Organizational Impact (Al Foundations - Mastery AFN30)
4	Designing Workflows with Al Integration (Integrating AI - Proficient FENT20)
5	Scaling Enterprise-Wide Al Solutions (Integrating Al - Mastery FENT30)
6	Implementing AI Tools for Workflow Optimization (AI Automation - Proficient DAP20)
7	Mastering Automation with Advanced Al Techniques (Al Automation - Mastery DAP30)
8	Introduction to Al Governance Frameworks (Al Policy & Governance - Introduction EPG10)
9	Developing Ethical AI Strategies (AI Policy & Governance - Proficient EPG20)
10	Advanced Governance and Risk Management Practices (Al Policy & Governance - Mastery EPG30)
11	Introduction to AI in Cybersecurity (Cybersecurity and AI - Introduction GCY10)
12	Implementing Real-Time Threat Detection (Cybersecurity and AI - Proficient GCY20)
13	Applying Knowledge to Real-World Challenges (Capstone - Proficient HCAP20)

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Student Persona H: Service Desk Lead

Sequence	Course Title (Track - Proficiency Level & Course Code)
1	Introduction to AI Concepts and Tools (AI Foundations - Introduction AFN10)
2	Applying AI in Business Processes (AI Foundations - Proficient AFN20)
3	Al Strategies for Organizational Impact (Al Foundations - Mastery AFN30)
4	Designing Workflows with AI Integration (Integrating AI - Proficient FENT20)
5	Scaling Enterprise-Wide AI Solutions (Integrating AI - Mastery FENT30)
6	Implementing AI Tools for Workflow Optimization (AI Automation - Proficient DAP20)
7	Mastering Automation with Advanced Al Techniques (Al Automation - Mastery DAP30)
8	Introduction to Al Governance Frameworks (Al Policy & Governance - Introduction EPG10)
9	Developing Ethical AI Strategies (AI Policy & Governance - Proficient EPG20)
10	Advanced Governance and Risk Management Practices (Al Policy & Governance - Mastery EPG30)
11	Introduction to AI in Cybersecurity (Cybersecurity and AI - Introduction GCY10)
12	Implementing Real-Time Threat Detection (Cybersecurity and AI - Proficient GCY20)
13	Applying Knowledge to Real-World Challenges (Capstone - Proficient HCAP20)

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