CANSCRIBE CAREER COLLEGE

Aquaculture Technology Program

Detailed Program Curriculum

Program Code: ATL1

Program Description

Precision aquaculture refers to the use of modern, data-driven technologies to support sustainable aquatic food production and ecosystem management. Aquaculture technology plays a vital role in the daily operation and long-term success of aquaculture systems. Students in this program will begin with foundational learning in computer fundamentals and essential skills training, setting learners up for success. Core instruction includes the basics of precision aquaculture, water quality management, data collection technologies, and the application of IoT (Internet of Things), automation, and sensor systems in aquaculture environments.

The program equips students with knowledge of aquaculture systems and tools that support sustainable aquatic production and ecosystem protection in various settings, including freshwater, saltwater, and controlled environments. Through training in environmental monitoring, data analysis, and sustainable aquaculture practices, students will learn how to support local aquaculture operations with minimal environmental impact and efficient resource use. The program also introduces the fundamentals and advantages of drone use in aquaculture for monitoring, site mapping, and system inspections.

Aquaculture safety and career-focused business training are integral to this program, helping graduates prepare for roles in community-based and commercial aquaculture operations. A strong focus on professional development ensures learners are ready to apply, interview, and start rewarding careers in aquaculture. This program accommodates training in remote and Indigenous communities, supporting job placement in these regions.

Career Occupation

This program is intended to prepare a student for the following occupations:

- Aquaculture Technician
- Fish Hatchery Technician
- Aquaponics System Operator
- Water Quality Technician
- Aquaculture Farm Assistant
- RAS (Recirculating Aquaculture System) Technician
- Feed Technician
- Harvesting and Processing Assistant
- Aquaculture Data Collection & Entry Specialist
- Aquaculture Business Coordinator
- Precision Aquaculture Technologist
- Environmental Monitoring Technician
- Community Food Security Support Worker
- Food Security Coordinator

Admission Requirements

- Minimum grade 10 completion. If the applicant is under 19, a parent or guardian must sign on behalf of the applicant.
- A copy of a government-issued piece of photo identification, such as a driver's license, passport, or other, which shows the student's information, including date of birth.
- Distance Learning students must have a PC or laptop (Windows-based) with minimum computer requirements and Internet access (high speed is recommended) as highlighted under the Computer Requirements section.
- Minimum three years of work experience:
    - Work experience can be outside of Canada.
    - Work experience does not need to be three consecutive years.
    - Work experience must be outside of full or part-time studies (high school or post-secondary).
    - Work experience can include volunteer work.
    - Three years can be a combination of full-time or part-time paid/volunteer work.
- Language Proficiency Requirements must be met as outlined below.

Language Proficiency Requirements

1. Education

A) Secondary Education

Evidence of three (3) years of full-time secondary education (Grades 8-12), or two (2) years if the grades are 10, 11, or 12, have been successfully completed where English is the principal language of instruction.

OR

B) Post-Secondary Education

Evidence of two (2) years of full-time post-secondary education have been successfully completed where English is the principal language of instruction.

OR

2. Assessment

By achieving a recognized standardized language test/assessment.

- International English Language Testing System (IELTS) Academic: minimum overall score of 5.5
- Test of English as a Foreign Language (TOEFL) IBT: minimum overall score of 46
- Canadian Academic English Language Assessment (CAEL): minimum overall score of 40
- Canadian English Language Proficiency Index Program (CELPIP): Listening 6, Speaking 6, Reading 5, and Writing 5
- Duolingo English Test (DET): minimum overall score of 95
- Pearson Test of English (PTE) Academic: minimum overall score of 43
- Cambridge English Qualifications: B2 First exam (FCE): minimum overall score of 160 or 'C'
- Cambridge Linguaskill: minimum overall B2 level
- LANGUAGECERT Academic: minimum overall B2 level
- The Michigan English Test (MET): minimum overall B2 level
- iTEP Academic: minimum overall score of 3.5
- EIKEN: minimum placement of Grade Pre-1

Instructors and Educational Assistants

All instructors and educational assistants employed by CanScribe Career College are highly qualified and bring a wealth of knowledge and experience to their roles. They are dedicated to assisting every student through the program. Students will complete the program individually, at their own pace, and online. Students will be supported by our Instructional, Student Services, and IT departments.

Program Learning Objectives

Upon successful completion of the Aquaculture Technology Program, the student will be able to:

- define the important role of the Aquaculture Technology worker,
- demonstrate an understanding of computer equipment, keyboard kinetics, and Windows,
- apply essential learning skills: adaptability, collaboration, communication, creativity and innovation, digital, numeracy problem solving, reading, and writing,
- outline the meaning, applications, and technologies of precision aquaculture and their impact on operations,
- define essential water quality parameters in aquaculture,
- decipher actionable insights within precision aquaculture,
- compare traditional and precision feeding and monitoring methods in aquaculture, including the advantages and challenges of each approach,
- compare precision aquaculture applications in uncontrolled, semi-controlled, and controlled environments,
- describe the IoT (Internet of Things) and identify how these technologies can be used in aquaculture systems,
- evaluate the economic and environmental challenges and benefits of utilizing precision aquaculture systems,
- analyze data interpretation, precision aquaculture systems, and real-time monitoring for aquatic health and disease prevention,

- identify common water health issues and their impacts on aquatic species and production outcomes,
- compare basic water-testing techniques to assess water health,
- apply basic methods for improving water quality in aquaculture systems, such as aeration and filtration,
- analyze processes of capturing and recording data in precision aquaculture applications,
- identify the fundamental technologies used in precision aquaculture and their applications,
- describe how precision aquaculture can lead to more sustainable farming practices,
- explain the principles and components of Recirculating Aquaculture Systems (RAS) and controlled environment aquaculture,
- demonstrate the application of IoT, sensors, and automation in precision aquaculture systems,
- exercise data-driven decision-making to optimize aquaculture production and health management,
- analyze disease, parasite, and biofouling management strategies in precision aquaculture,
- explain how sustainable practices can be applied to small-scale farming to improve efficiency and sustainability,
- distinguish a farm plan using sustainable precision aquaculture principles,
- incorporate simple tools for improved sustainable farm management,
- analyze techniques for optimizing water quality, system flow, and resource efficiency through precision aquaculture tools,
- build strategies for reducing carbon emissions and improving energy efficiency in aquaculture systems,
- construct health management strategies addressing disease, parasites, and nutrient balance in aquaculture systems,
- develop sustainable techniques in hatchery management, selective breeding, and harvesting practices,
- explore specific applications of drones in precision aquaculture, including site mapping, infrastructure inspection, and monitoring,
- interpret the basics of what makes an aquaculture business successful, including simple business models, understanding the target market, and basic financial principles,
- construct a process of planning for a small aquaculture business, including setting simple objectives, planning for basic operational needs, and considering sustainability,
- demonstrate the fundamentals of managing an aquaculture business, focusing on small to medium-sized enterprises,
- apply fundamental skills in financial management, including budgeting and financial planning for aquaculture businesses,
- distinguish risks associated with aquaculture businesses and learn basic strategies for risk management,
- design and prepare a cover letter and resume and identify key job-searching skills, and
- demonstrate the ability to conduct an interview over the phone with an instructor.

Method of Evaluation

1. **Course Tests** **30 %**

   Course tests are weighted equally, combined, and averaged to determine the final grade.

2. **Assigned Activities** **50 %**

   Students will be directed to complete activities throughout the program. Students will engage in critical thinking activities that relate to the course content. Specific assignments will be identified as graded at the end of each course, prior to the course test.

3. **Final Examination** **20 %**

   The final exam is cumulative, covering material from the beginning of the program. The final exam will comprise questions from every course in the program.

TOTAL 100 %

Completion Requirements

To meet the graduation requirement for the Aquaculture Technology Program, the student must have achieved a grade of C (60% or higher). The following table denotes CanScribe's Final Grade Percentages:

A+	95 – 100%	Dean's List
A	90 – 94%	High Honors
A-	85 - 89%	Honors
B+	80 – 84%	Merit
B	75 – 79%	
B-	70 – 74%	
C+	65 – 69%	
C	60 – 64%	Pass
C-	55 – 59%	
D	50 – 54%	
F	Below 50%	

Students have access to an online gradebook through their program platform. This tool allows students to access their grades throughout the program. There are three components within the gradebook:

1. Course Tests
2. Course Activities
3. Final Exam

Program Duration

Upon registration, each student is provided with a program timeline that includes completion dates to guide and assist with time management throughout the program. Students working a full-time schedule of five hours per day, five days per week, will complete the program within 12 weeks. An example of the full-time timeline is as follows:

	Aquaculture Technology Program Timeline		
Course Code	**Course**	**Estimated hours to complete**	**Estimated days to complete** (5-day study week)
AQTL1011	Introduction	1	1
COMP1021	Computer Fundamentals	15	3
BUPD1031	Essential Skills and Career Training	15	3
AQTL1021	Safety Skills Training	5	1
AQTL1031	Foundations of Aquaculture	50	10
	Milestone 1		
AQTL2011	IoT (Internet of Things)	15	3
AQTL2021	Water Management	25	5
AQTL2031	Basics of Precision Aquaculture Technology	50	10
	Milestone 2		
INDG1011	Indigenous Engagement	25	5

AQTL3011	Sustainable Practices in Aquaculture	25	5
AQTL3021	Fundamentals of Drone Training	10	2
AQTL3031	Data and Technology	30	6
BUAA1061	Business Training	20	4
	Milestone 3		
BUPD1001	Professional Development	15	3
AQTL3111	Final Exam	4	1
	Total	**305**	**62**

Homework Hours

Homework hours are integrated into the program curriculum with an online delivery model; however, students can expect to review and study materials to successfully complete course activities, tests, and exams.

Delivery Methods

This program can be delivered through in-class instruction and distance education methods.

Milestones

Milestones occur three times throughout the program and are triggered when the student reaches specific points in the program. The instructor initiates contact to check on the student's progress, addresses any questions or concerns, and ensures the student is making satisfactory progress in the program. Students are encouraged to contact the instructors when they need assistance.

Course Surveys

Upon completing each course, students are encouraged to fill out a brief survey. It will ask the students about their experience with basic directions, activities, materials and resources, visual and audio elements, and instructor assistance in that course. There is room for comments, and all comments are welcomed. As many concerns can be resolved directly, we encourage students to leave their email contact information on the survey. Constructive feedback is welcomed and viewed as an excellent opportunity for CanScribe to enhance the program.

Required Reference Materials and Industry Platforms

The following resources are required for the program and will be used for all courses, activities, and tests unless otherwise specified. Comparable replacements may be substituted at CanScribe's discretion.

- **Microsoft 365** is a software package that can be used for routine tasks. Multiple mandatory assignments throughout the program will require Microsoft 365. Students are responsible for having Microsoft 365 installed on their computers before starting their program.
- **Sensors and platforms** will be utilized so students can gather data for predictive analytics without needing to write code.
- **Drone Simulator Platform** will offer students comprehensive drone simulation training to mimic real-world experiences.

Computer Requirements

A computer is required for the entire program. Computer requirements are as follows:

- Access to high-speed Internet
    - minimum download speed of 15 mbps
    - minimum upload speed of 10 mbps
- A minimum of 8 gigabytes of RAM (Random Access Memory)
- For Windows Operating Systems:
    - Windows 10 or newer
    - Chrome, Edge, or Firefox

Academic Honesty

CanScribe Career College is committed to the highest standards of academic integrity and honesty. Students are urged to avoid any behavior that could lead to suspicion of cheating, plagiarism, misrepresentation of facts, and/or participation in an offense. Academic dishonesty is a serious offense and can result in suspension or dismissal from the program. Please see further details under the **Appropriate Conduct/Dismissal Policy** section in the CanScribe Student Handbook.

AI and Its Use in Learning

CanScribe Career College encourages students to use AI tools, such as ChatGPT, to support their learning. Students can utilize AI tools for specific parts of their assignments, such as brainstorming, researching, locating peer-reviewed publications, and providing assistance in editing the student's work; however, the core content and conclusions must be the student's original creation. AI should never be used to write information on behalf of the student. Copying and pasting information generated by AI is considered a form of plagiarism. It is also important to remember that all information submitted to Open AI is in the public domain. **NEVER** share any sensitive or confidential information when using AI.

Program Outline

Introduction to Aquaculture Technology

Course Code: AQTL1011
Prerequisites: None
Learning Objectives: Upon successful completion of the Introduction to Aquaculture Technology course, students will be able to discern the overall program objectives and expected learning outcomes. Students will identify the important role of the Aquaculture Technology worker in the aquaculture sector and evaluate career outlooks, exploring why people choose a career in the aquaculture industry.
Length: 1 hour
Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.
Method of Evaluation: No evaluative content for this course.
Completion Requirement: View all course material.
Course Outline:

1.0 Academic Integrity
2.0 Aquaculture Technology Introduction
3.0 The Role of an Aquaculture Technology Worker
4.0 Learning Objectives
5.0 Required Reference Materials
6.0 Other Resources
7.0 Career Outlook for Aquaculture Technology Roles
8.0 Why People Train in Precision Aquaculture Technology

Computer Fundamentals

Course Code: COMP1021
Prerequisites: Introduction to Aquaculture Technology (AQTL1011)
Learning Objectives: Upon successful completion of the Computer Fundamentals course, the student will be able to apply

basic computer skills, peripherals, and wire technology. Students will identify the use of the Internet as a resource and will recognize various methods for data storage and networking. They will describe hardware, software, and Internet components. Finally, students will identify related equipment and how to use it.
Length: 15 hours
Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.
Method of Evaluation: Computer Fundamentals activities and course test.
Completion Requirement: View all course material, attempt course activity, and complete the Computer Fundamentals course test.
Course Outline:

1.0 Basic Computer Components and Terminology
2.0 Online Applications and Cyber Security
3.0 Windows 11 – Level 1
4.0 Microsoft Training: Word, Excel, Outlook
5.0 Course Test

Essential Skills and Career Training

Course Code: BUPD1031
Prerequisites: Computer Fundamentals (COMP1021)
Learning Objectives: Upon successful completion of the Essential Skills Training course, students will be able to recognize the skills necessary for success. Students will identify adaptability, collaboration, communication, creativity, innovation, digital and numeracy problem-solving, reading, and writing skills. Students will apply these practices to the learning and training experience. They will execute training projects and activities and interact with colleagues, employers, and industry experts.
Length: 15 hours
Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.
Method of Evaluation: Essential Skills Training activities and course test.
Completion Requirement: View all course material, attempt course activity, and complete the Essential Skills Training course test.
Course Outline:

1.0 Introduction to Skills for Success
2.0 Practice Skills for Success
3.0 Apply Skills for Success
4.0 Assigned Activity
5.0 Course Test

Safety Skills Training

Course Code: AQTL1021
Prerequisites: Essential Skills and Career Training (BUPD1031)
Learning Objectives: Upon successful completion of the Safety Skills Training course, students will be able to define aquaculture safety and distinguish between health and safety hazards. They will describe standard safety practices, identify appropriate equipment, and recognize opportunities for further training relevant to aquaculture operations. Students will also understand WHMIS, explain the purpose of an Emergency Response Plan, and demonstrate knowledge of job safety, legal responsibilities, and the roles of both employers and employees in maintaining a safe workplace.
Length: 5 hours
Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.
Method of Evaluation: Safety Skills Training activities and course test.
Completion Requirement: View all course material, attempt course activity, and complete the Safety Skills Training course test.
Course Outline:

1.0 Introduction to Safety Skills
2.0 Health and Safety Practices in Aquaculture
3.0 Risk Assessment and Management
4.0 Safety Preparedness for the Aquaculture Sector
5.0 Assigned Activity
6.0 Course Test

Foundations of Aquaculture

Course Code: AQTL1031
Prerequisites: Safety Skills Training (AQTL1021)
Learning Objectives: Upon successful completion of the Foundations of Aquaculture course, students will be able to outline the meaning and applications of precision aquaculture, including the technologies involved and their impact on traditional practices. They will define and explain key water quality parameters essential to aquatic animal health and system efficiency and learn to analyze measurable data to extract actionable insights. Students will compare traditional and precision-based feeding and monitoring methods, evaluating the respective benefits and limitations of each. They will also interpret spatial variability within aquaculture environments and assess how precision aquaculture is applied across uncontrolled, semi-controlled, and controlled systems.
Length: 50 hours
Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.
Method of Evaluation: Foundations of Aquaculture activities and course test.
Completion Requirement: View all course material, attempt course activities, and complete the Foundations of Aquaculture course test.
Course Outline:

1.0 Introduction to Aquaculture and Food Security
2.0 Methods of Aquaculture
3.0 Aquaculture Technical Skills
4.0 Problems with Traditional Aquaculture
5.0 Nutrient Waste and Effluent Discharge
6.0 Monoculture vs. Polyculture
7.0 Introduction to Aquatic Botany
8.0 Essential Water Quality Parameters in Aquaculture
9.0 Useful Data that can be Measured
10.0 Actionable Insights that Precision Aquaculture Provides
11.0 Fish Hatchery Systems
12.0 Introduction to Open Water, Semi-Controlled, and Recirculating Aquaculture Systems (RAS)
13.0 Assigned Activity
14.0 Course Test

Milestone1

Mandatory check-in with an instructor.

IoT (Internet of Things)

Course Code: AQTL2011
Prerequisites: Foundations of Aquaculture (AQTL1031)
Learning Objectives: Upon successful completion of the Internet of Things (IoT) course, students will be able to describe the core concepts of IoT and identify its applications within aquaculture systems. They will evaluate the economic and environmental challenges and benefits associated with implementing precision aquaculture technologies. Students will also examine the fundamentals of aquaculture sensors used for water quality and environmental monitoring and will be able to analyze data interpretation techniques, real-time monitoring, and their role in supporting aquatic health and disease prevention.
Length: 15 hours
Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.
Method of Evaluation: IoT activities and course test.
Completion Requirement: View all course material, attempt course activities, and complete the IoT course test.
Course Outline:

1.0 Introduction to the Internet of Things (IoT)
2.0 Common Sensors in Aquaculture
3.0 Basic IoT Hardware, Communication Technologies, and Network Structures
4.0 Challenges of Deploying IoT Hardware
5.0 Introduction to No-Code IoT Software Development
6.0 QuickStart Guide on IoT for your Aquaculture Project with Simulations
7.0 Assigned Activity
8.0 Course Test

Water Management

Course Code: AQTL2021
Prerequisites: Internet of Things (AQTL2011)
Learning Objectives: Upon successful completion of the Water Management course, students will be able to distinguish the

key components of water health and understand their significance for sustainable aquaculture. They will identify common water quality issues and their effects on aquatic species and production. Students will compare basic water-testing techniques and apply fundamental methods to improve water quality, including aeration and filtration. Additionally, they will describe water conservation and recirculation strategies and assess their role in promoting environmental and operational sustainability in aquaculture systems.
Length: 25 hours
Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.
Method of Evaluation: Water Management activities and course test.
Completion Requirement: View all course material, attempt course activities, and complete the Water Management course test.
Course Outline:

1.0 Introduction to Water Health and Management
2.0 Identifying Water Health and Water Issues
3.0 Water Testing Techniques
4.0 Improving Water Health
5.0 Efficient Water Use and Recirculation in Aquaculture
6.0 Managing Ocean Water in Ocean Harvesting
7.0 Water Health and Inland Fish Farms
8.0 Assigned Activity
9.0 Course Test

Basics of Precision Aquaculture Technology

Course Code: AQTL2031
Prerequisites: Water Management (AQTL2021)
Learning Objectives: Upon successful completion of the Precision Aquaculture Technology course, students will be able to explain the core concepts and significance of precision aquaculture, as well as identify the technologies used to support its application. They will utilize basic mapping tools to enhance aquaculture management and describe how precision techniques contribute to environmental sustainability and operational efficiency. Students will analyze how these technologies improve water quality, fish health, and overall system management. They will also explain the principles and components of Recirculating Aquaculture Systems (RAS) and controlled environment aquaculture and demonstrate how these systems support sustainability and profitability. In addition, students will examine implementation challenges, apply IoT, sensors, and automation in precision systems, and use data-driven decision-making to optimize production and health management. Finally, they will evaluate disease, parasite, and biofouling management strategies and recognize optimal growth parameters for aquatic species.
Length: 50 hours
Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.
Method of Evaluation: Precision Aquaculture Technology Applications activities and course test.
Completion Requirement: View all course material, attempt course activities, and complete the Precision Aquaculture Technology course test.
Course Outline:

1.0 Introduction to Precision Aquaculture Technology
2.0 Aquaculture Technical Skills
3.0 Core Concepts of Applied Precision Aquaculture
4.0 Basic Technologies in Precision Aquaculture Today
5.0 Mapping Tools for Aquaculture Management
6.0 Sustainable Practices in Precision Aquaculture
7.0 Introduction to Recirculating Aquaculture Systems (RAS) and Aquaponics
8.0 IoT in RAS and Aquaponics
9.0 Data-Driven Decisions in Aquaculture
10.0 Precision Aquaculture Approaches to Health and Pest Management
11.0 Introduction to Growth Parameter Optimization in Precision Aquaculture
12.0 Challenges of Installing and Maintaining RAS and Aquaponic Installations
13.0 Nutrition Management Practices
14.0 Cost-Benefit Analysis Frameworks
15.0 Assigned Activity
16.0 Course Test

Milestone 2

Mandatory check-in with an instructor.

Indigenous Engagement

Course Code: INDG1011

Prerequisites: Basics of Precision Aquaculture Technology (AQTL2031)

Learning Objectives: Upon successful completion of the Indigenous Engagement course, students will develop an informed understanding of Indigenous Peoples in Canada, including distinctions among First Nations communities and the appropriate use of related terminology. They will explore Indigenous ways of life before and after European contact, examine Canada's colonization history, and address common misconceptions about these topics. Students will gain foundational knowledge of key legal frameworks, including the Royal Proclamation of 1763, the Indian Act, and the Constitution Act of 1982. The course will also cover the legacy of residential schools, Canada's "land questions," and the concepts of truth and reconciliation, including their meanings and levels. Additionally, learners will explore concepts such as white privilege, the structure of reserves, and the significance of the Truth and Reconciliation Commission's 94 Calls to Action.

Length: 25 hours

Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.

Method of Evaluation: Indigenous Engagement activities and course test.

Completion Requirement: View all course material, attempt course activities, and complete the Indigenous Engagement course test.

Course Outline:

1.0 Introduction
2.0 Glossary
3.0 The Basics
4.0 Metis in Canada
5.0 Canada's Colonization History
6.0 Canada's Indian Reserve System
7.0 Canada's Residential School System
8.0 Canada's "Land Questions"
9.0 Truth and Reality (Reconciliation)
10.0 Chronological Reference Guide
11.0 Assigned Activity
12.0 Course Test

Sustainable Practices in Aquaculture

Course Code: AQTL3011

Prerequisites: Indigenous Engagement (INDG1011)

Learning Objectives: Upon successful completion of the Sustainable Practices in Aquaculture course, students will be able to recall core concepts of sustainable precision aquaculture and explain their application to small-scale farming for improved efficiency and environmental stewardship. They will identify the environmental impacts of various aquaculture practices and how precision technologies can help mitigate them. Students will distinguish between production plans that apply sustainable principles, incorporate simple tools for farm management, and analyze techniques for optimizing water quality, system flow, and resource use. They will also build strategies to reduce carbon emissions, enhance energy efficiency, manage aquatic health, and address issues such as disease, parasites, and nutrient balance. Additionally, students will develop sustainable approaches to hatchery operations, selective breeding, and harvesting practices.

Length: 25 hours

Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.

Method of Evaluation: Sustainable Practices in Aquaculture activities and course test.

Completion Requirement: View all course material, attempt course activities, and complete the Sustainable Practices in Aquaculture course test.

Course Outline:

1.0 Introduction to Sustainable Aquaculture Technologies
2.0 Aquaculture in Traditional and Controlled Environment Systems
3.0 Water Management Techniques in Fresh and Saltwater
4.0 Carbon Reduction Strategies in Aquaculture Operations
5.0 Data-Driven Decision-Making to Optimize Feed, Energy, and Water Use
6.0 Precision Oxygenation and Flow Management
7.0 Precision Disease and Parasite Management
8.0 Precision Nutrient Management
9.0 Supporting Biodiversity in Aquatic Systems
10.0 Sustainable Hatchery and Fingerling Practices
11.0 Selective Breeding and Genetic Improvements in Aquaculture Species
12.0 Assigned Activity
13.0 Course Test

Fundamentals of Drone Training

Course Code: AQTL3031

Prerequisites: Sustainable Practices in Aquaculture (AQTL3011)

Learning Objectives: Upon successful completion of the Fundamentals of Drone Training course, students will be able to interpret the basics of drone technology, including system components, functionality, and broad applications. They will outline the steps required to obtain and maintain Canadian drone pilot certification, as well as identify the diverse applications of drones across various industries, with a focus on their benefits. Students will explore specific applications in precision aquaculture, such as site mapping, infrastructure inspection, and environmental monitoring. They will analyze real-world examples of drone use to enhance system performance, sustainability, and environmental outcomes and discuss emerging trends and future advancements in drone technology relevant to aquaculture.

Length: 10 hours

Teaching Methods: Online, self-directed learning through LMS using written content, videos, and activities. Instructional assistance is available via email, phone, or live chat.

Method of Evaluation: Fundamentals of Drone Training activities and course test.

Completion Requirement: View all course material, attempt course activities, and complete Fundamentals of Drone Training course test.

Course Outline:

1.0 Introduction to Drones
2.0 Drones as Tools
3.0 Drones in Precision Aquaculture
4.0 Next Steps in Drone Technology
5.0 Assigned Activity
6.0 Course Test

Data and Technology

Course Code: AQTL3031

Prerequisites: Fundaments of Drone Training (AQTL3021)

Learning Objective: Upon successful completion of the Data and Technology course, students will be able to explain key technologies used in precision aquaculture and summarize the importance of data collection in optimizing system performance. They will analyze methods for capturing and recording data in aquaculture applications and understand how to store and share data in accordance with privacy regulations and best practices.

Length: 30 hours

Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.

Method of Evaluation: Data and Technology activities and course test.

Completion Requirement: View all course material, attempt course activities, and complete the Data and Technology course test.

Course Outline:

1.0 Introduction to Aquaculture Data
2.0 Basic Data Collection Methods
3.0 Using Spreadsheets for Data Analysis
4.0 Simple Technologies for Data Collection
5.0 Making Data-Based Decision
6.0 Application of IoT Learnings
7.0 Basics of Technology Implementation
8.0 Assigned Activity
9.0 Course Test

Business Training

Course Code: BUAA1061

Prerequisites: Data and Technology (AQTL3031)

Learning Objective: Upon successful completion of the Business Training course, students will be able to interpret the fundamentals of business success, including basic business models, understanding target markets, and applying core financial principles. They will identify market trends and assess potential business risks while planning effectively for small business operations with an emphasis on sustainability. Students will demonstrate foundational business management skills for small to medium-sized enterprises, develop and implement simple marketing strategies, and interpret the value chain and its components. They will also apply essential financial management skills such as budgeting and planning and distinguish common business risks while exploring basic risk management strategies.

Length: 20 hours

Teaching Methods: Online, self-directed learning through LMS using written content, videos, and activities. Instructional assistance is available via email, phone, or live chat.

Method of Evaluation: Business Training activities and course test.
Completion Requirement: View all course material, attempt activities, and complete the Business Training course test.
Course Outline:

1.0 Introduction to Business
2.0 Understanding Business Concepts
3.0 Market Trends and Risk Awareness
4.0 Introduction to Business Planning
5.0 Business Management Fundamentals
6.0 Understanding the Value Chain
7.0 Basic Financial Management
8.0 Simple Marketing Strategies
9.0 Identifying Market Opportunities
10.0 Risk Management
11.0 Planning For Small Business Startups
12.0 Selling to Consumers
13.0 Labour Management
14.0 Assigned Activity
15.0 Course Test

Milestone 3

Mandatory check-in with an instructor.

Professional Development

Course Code: BUPD1001
Prerequisites: Business Training (BUAA1061)
Learning Objective: Upon successful completion of the Professional Development course, students will be able to design and prepare a cover letter and resume tailored to employment opportunities. They will identify essential job-searching skills, define and discuss all aspects of the interview process, and demonstrate appropriate interview attire and etiquette. Students will also develop an interview evaluation checklist and demonstrate their ability to conduct a professional phone interview with an instructor.
Length: 15 hours
Teaching Methods: Online, self-directed learning through LMS using written content, videos, quizzes, and activities. Instructional assistance is available via email, phone, or live chat.
Method of Evaluation: Professional Development activities and course test.
Completion Requirement: View all course material, attempt activities, and complete the Professional Development course test.
Course Outline:

1.0 Introduction to Professional Development
2.0 The Next Steps
3.0 Resumes
4.0 Applications and Cover Letters
5.0 Job Searching
6.0 Interviewing
7.0 Practice Interview Activity
8.0 Course Test

Final Exam

Prerequisites: Completion of all courses and check-ins.
Learning Objective: The purpose of this exam is to assess the student's learning outcomes at this final stage of the program. Upon completion of the exam, the student should possess a skill-level assessment of all the courses completed to date.
Length: 4 hours
Teaching Methods: Online, timed exam. Instructional assistance will be available, if needed, before the exam begins.
Method of Evaluation: Completion of the final exam.
Completion Requirement: Students must attempt the Final Exam and obtain a minimum program grade of 60%.

Conclusion

Congratulations, and good luck in all your future endeavors.