

Aquaculture and Agriculture Tech Skills Hub

Delivering new workforce training solutions to Queensland's
Aquaculture and Agriculture Industries





Aquaculture and Agriculture Tech Skills Hub

The Aquaculture and Agriculture Tech Skills Hub is jointly funded by the Australian Government under the Regional Recovery Partnerships, Greater Whitsunday Alliance (GW3) and Regional Development Australia, and is being delivered in partnership with the Queensland Government, TAFE Queensland and CQUniversity Australia.

Through significant consultation with industry subject-matter experts, community and government, the partnership has developed a Qualification Framework including micro-credentials, an accredited skillset and three entry-level qualifications, providing critical skills including digital, technology and work skills for current and future roles across the Agriculture and Aquaculture industry sectors.

SFI20119 Certificate II in Aquaculture

The Certificate II in Aquaculture is an entry-level course designed to equip students with a range of practical and technological skills required to work in the Aquaculture industry. Students will learn how to interact with aquatic technology, maintain the water environment and participate in environmentally sustainable practices.

Core

- SFIAQU202 Handle Stock
- SFIBIO201 Inspect and clean aquatic work equipment
- SFIWHS201 Meet workplace health and safety requirements
- SFISSI102 Communicate in the seafood industry
- SFISSI201 Work effectively in the seafood industry

Electives

- SFIAQU204 Undertake routine maintenance of water supply and disposal systems and structures
- SFIAQU207 Monitor stock and environmental conditions
- SFIAQU212 Operate and maintain a recirculating aquaculture system
- SFIAQU217 Feed stock
- SFIAQU218 Prepare and use aquatic technology
- SFIBIO301 Identify and report signs of aquatic disease or pests
- SFIEMS201 Participate in environmentally sustainable work practices

AHC21216 Certificate II in Rural Operations

The Certificate II in Rural Operations is an entry-level course designed to equip students with the practical skills needed to work across a variety of existing and emergent roles in the agricultural sector. Students will learn how to operate a variety of agriculture equipment, operate GPS devices and develop foundational skills in autonomous technologies and robotic systems.

Core

- AHCWRK209 Participate in environmentally sustainable work practices
- AHCWRK204 Work effectively in the industry
- AHCWHS201 Participate in work health and safety processes

Electives

- AHCWRK205 Participate in workplace communications
- AHCCHM201 Apply chemicals under supervision
- AHCMOM203 Operate basic machinery and equipment
- AHCLPW201 Operate a handheld GPS device
- AHCECR201 Capture digital media for fieldwork
- AHCSOL203 Assist with soil or growing media sampling and testing
- AHPCPM204 Recognise plants
- ICTPRG302 Apply introductory programming techniques
- NAT10935005 Produce a documentation suite for autonomous systems
- NAT10935006 Configure autonomous embedded systems
- NAT10935007 Prepare basic programs for Programmable Logic Controllers (PLCs) for autonomous applications
- VU22338 Configure and program a basic robotic system

10395NAT Certificate II in Autonomous Technologies

The Certificate II in Autonomous Technologies is an entry-level course that equips students with a broad range of skills driven by the introduction of new technologies as a result of industry 4.0. Students will develop innovative thinking and problem-solving skills and foundational skills in information communication technologies including networking, programming and Internet of Things (IoT) and autonomy and robotics.

Core

- NAT10935001 Work effectively in autonomous environments
- NAT10935002 Handle technical communication in autonomous environments
- NAT10935003 Design basic fluid power logic diagrams for autonomous systems
- NAT10935004 Design basic logic ladder diagrams for autonomous electric control circuits
- NAT10935005 Produce a documentation suite for autonomous systems
- NAT10935006 Configure autonomous embedded systems
- NAT10935007 Prepare basic programs for Programmable Logic Controllers (PLCs) for autonomous applications
- NAT10935008 Use basic positioning technology
- NAT10935009 Conduct a basic autonomous technology project
- VU22338 Configure and program a basic robotic system
- VU22324 Build a simple network and establish end to end connectivity
- MSMWHS200 Work safely
- MSMSUP390 Use structured problem-solving tools
- ICTPRG302 Apply introductory programming techniques

Electives

- MSMWHS201 Conduct hazard analysis
- ICTNWK308 Determine and action network problems

Aquaculture Technology Skillset

The Aquaculture Technology skillset has been designed to upskill existing workers within the Aquaculture Industry. Students will learn how to operate hi-tech and real time aquatic technology, and plan and monitor feed activities for cultured aquatic stock.

- SFIAQU313 Operate hi-tech and real time aquatic technology
- SFIAQU312 Monitor feed activities



Micro-credentials

The following micro-credentials are on-line and self-paced, making them a flexible and accessible way to study and gain a recognised learning outcome and digital badge.

Digital Skills



Adapt, Collaborate and Communicate

Gain an understanding of the dynamic work environment and the skills required to effectively uptake new communications and technologies in this innovative course.



Collect, Record and Manage Data

Data is a valuable resource that helps to make better decisions, improve processes and enhance innovations. This course provides an overview of data analysis and interpretive techniques that can be applied to produce meaningful results.



Communication Technologies for Business Success

This course identifies communication tools and correct etiquette including email, instant messenger and video calling applications and investigates the key aspects of social media and how to use technology applications.



Cyber Security

Cyber threats are becoming more frequent and advanced. This course introduces the current and emerging trends in cyber security, secrecy protection techniques and availability of computer systems and data.



Cyber Security Essentials

Learn how to identify potential threats and how to avoid them and techniques on how to stay safe at home and in the workplace. This course debunks myths, identifies facts, and highlights the most common cyber-attacks.



Data Security Essentials

Gain an understanding of the key components of data security, its importance and how data should be maintained. Identify common types of incidents, data security versus cyber security and an understanding of how breaches can happen.



Digital Data Essentials

Gain an understanding of the techniques used for identifying qualitative and quantitative data and recognising patterns. This course provides an understanding of the basics of data, its history, why data is used and how it is collected.



Digital Literacy Essentials

Digital literacy is essential for employability, productivity, and effective communication. This course identifies the key aspects of communicating and collaborating using different devices and provides an understanding of the different types of hardware, software, and operating systems.



Digital Technologies in Agriculture and Aquaculture

Digital technology is essential to growth within the agriculture and aquaculture sector. This course introduces the common terms, technologies and methods used within the industry and the relevant hardware and software available.



Programmable Logic Controller (PLC)

Programmable logic controllers (PLCs) are a vital tool for automating and improving aquaculture and agriculture processes. Gain an understanding of how PLCs work, the tasks they can perform and basic troubleshooting techniques.



The Internet of Things

This course provides an overview of how the IoT is structured and the value and benefits of these technologies through examples of how these technologies are applied in industry.



Use Digital Technology for Routine Tasks

Gain an understanding of how contemporary agriculture and aquaculture practices are being used to enable routine tasks to become more accurate and efficient and the role of digital technologies to safely manage production.

Work Skills

Change Management



Change management is critical for improvement and growth in a rapidly changing world. Gain an understanding of how to implement team changes, communication techniques and how to monitor and improve changes once implemented.

Cultural Inclusiveness



The Aboriginal and Torres Strait Islander peoples in the workplace micro-credential provides employers with the necessary context, practical skills, and knowledge to foster effective workplace communication and strategies to support positive working relationships.

Effective Workplace Leadership



Gain an understanding of a range of different styles of leadership and the skills and knowledge that can be used to enhance and define your own leadership style. Learn how to apply different styles of team leadership and tips and tools to apply the skills and knowledge developed.

Environmental Sustainability



Sustainability is an important aspect of business activities to help protect the environment and reduce the impact on the ecosystem. Gain an understanding of sustainable development goals and environmental protections that are in place to support future generations.

Interact Effectively with Others at Work



Effective interaction helps each team member become an active contributor to a positive team culture. This course delivers the principles of communication, understanding different styles and methods and techniques to overcome workplace conflict.

Quality Assurance and Compliance



Quality assurance and compliance play vital roles in ensuring the success, constancy and credibility of workplaces. The course delivers the knowledge to establish, identify, and implement quality assurance systems, standards, and controls in the workplace.

Recruitment for Small Business



This course provides small businesses with knowledge and practical steps to enable effective workforce planning and legal and effective recruitment.

Risk Management



A proactive approach to risk management ensures all employees are safe within the agriculture/aquaculture industries. Gain an understanding on how to identify and understand risk potentials, their impacts and consequences.

Rural Electrical Safety Awareness



This course is for any person required to work near live overhead electric lines, underground cables and associated electrical apparatus, including the agricultural sector and in rural environments, and not limited to vegetation control, scaffolding, rigging, painting and general maintenance.

Work Effectively in Industry



An effective workplace is better equipped to adapt, innovate and improve performance and productivity. This course provides techniques to improve the quality of work, understand a team environment, set and achieve goals, identify priorities and develop schedules.

Work Safely Fundamentals



Working in an environment that prioritises the safety of workers reduces accidents, enhances morale and creates a positive company culture. This course provides an overview of how to work safely and identify organisational safety and reporting requirements.

Workplace Resilience and Wellbeing



This course provides an understanding of how establishing and building resilience and wellbeing can benefit and create a healthy workplace, using practical tips and supports for small businesses.

Technology Skills



Diagnostics and Fault Responses

Gain an understanding of how to identify a fault or problem and basic troubleshooting processes for the proactive management of faults and addressing issues.



Drones – Use and Maintenance

This course provides the knowledge to assist personnel in the safe, effective, and responsible operation of unmanned vehicles. Gain an understanding of how to perform basic maintenance for optimal functionality and extended life of unmanned vehicles.



Geospatial

Geospatial technology can be used for positioning, surveying and mapping activities in agriculture and other industries. This course provides an overview on the advantages, challenges and future innovations in geospatial technologies.



Introduction to Autonomous Equipment

The trend of autonomous equipment use in agriculture will continue to grow in the future. Gain knowledge on the development of autonomous systems and technologies in farming and changing food production practices.



Operate Basic Machinery and Equipment

Effective operation of basic machinery can assist in improved job opportunities and career advancement in agriculture. This course provides an overview of how to undertake pre-start checks, maintain, operate, and shut down basic machinery and equipment.



Positioning

Positioning technologies are invaluable tools to determine the location and movements of people or equipment. This course provides an overview of positioning technologies, what they are and how they are used.



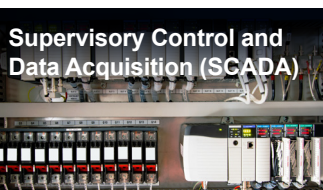
Precision Farming

Precision farming is an exciting and innovative approach to optimise agricultural practices. Gain an understanding of the concept of precision farming and the types of current and emerging techniques used in farming practices.



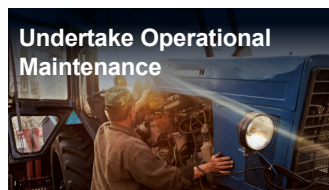
Sensors and Monitoring Devices

Sensors and monitoring devices play a critical role in decision-making, safety and environmental sustainability. This course provides an overview of how sensors work and the tasks they can perform to provide better industry outcomes.



Supervisory Control and Data Acquisition (SCADA)

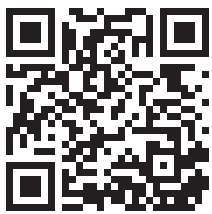
SCADA systems are critical technology to enhance the safety, efficiency and reliability of operations. Gain an understanding of how systems are controlled and managed, specific networks, communications abilities and security aspects.



Undertake Operational Maintenance

Operational maintenance is necessary to ensure the proper functioning and longevity of machinery, equipment, and systems. Gain knowledge to undertake operational maintenance, preparations and checks for basic machinery and equipment.

Learn more



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For further information on the Aquaculture and Agriculture Tech Skills Hub micro-credentials please contact us at tqcommercial@tafeqld.edu.au

