Compulsory for all pool building types:

Core
Materials Construction methods (incl. coping & interior finishes) Plans Tools and equipment
Planning Sustainability Communication Compliance & Legislation (inc. quality assurance)
Site preparation
Water reticulation systems

Plus, one or more of the following strands:

Precast concrete pools
Install precast concrete swimming pools Supervise concreting work

Above-ground pools
Install swimming pool and subsoil drainage Install above-ground swimming pools Supervise concreting work

Fibreglass pools
Install swimming pool and subsoil drainage Install prefabricated fibreglass swimming pools

Concrete pools
Install swimming pool and subsoil drainage Apply sprayed concrete to shape and finish swimming pools

CORE

Materials (5 credits)

Explain material science in a construction environment. (L4, 5cr)

- Material chemistry is in relation to its impact on common tasks.
- Material physical properties and behaviour under load in relation to their impact on construction tasks and ability to maintain building performance.
- Material compatibility in terms of ability to maintain structural integrity, durability and building performance.

Construction methods (10 credits)

Construction strategies to manage environmental impact on swimming pools

- Methods to manage the impact of environmental factors
- Methods to maintain the integrity of materials

Examples include:
Understanding differing ground conditions, along with high water tables.
Every area will have specific needs.
Dewatering / sustainable discharge
Shoring excavation if required
Excavating HAIL sites
Disposing of spoil

Confirm suitability of swimming pool coping

- Knowledge of construction techniques
- Evaluate installed pool coping to confirm suitability

Confirm suitability of interior finishing

- Knowledge of construction techniques for:
  - Tiling
  - Solid Plastering
  - Exposed aggregate
- Evaluate interior finishing to confirm suitability

Plans (3 credits)

Interpret information from plans and documentation for construction tasks. (L3, 3cr)

- Identify dimensions, material components, and construction methods from standard plans
- Information to determine material use, storage and disposal requirements

Tools and Equipment (3 credits)

Manage tool and equipment use in a construction environment. (L3, 3cr)

- Select, set-up and inspect tools and equipment
- Safe and efficient tool and equipment use
- Maintain and store tools and equipment to keep in good working order

Communication and planning (14 credits)

Plan tasks for a construction work programme. (L4, 10cr)

- Task requirements planned to optimise resources and safety
- Work programme responsibilities are communicated

Progress the work programme and maintain a safe construction worksite.

- Work is quality assured
- Tasks onsite are monitored to ensure worksite safety and to avoid disruption
- Expenses, time management, and resource requirements are monitored

Develop and maintain positive work relationships. (L4, 4cr)

- Leadership onsite to peers supports efficient, quality, and safe work tasks
- Constructive collaboration, and coordination with others
- Communication adapted to the purpose and audience
- Company behaviour expectations are maintained with external stakeholders or when working in public areas.

For example:
Representing the organisation & industry.

Safety (10 credits)

Implement safe practices for self and others in a construction environment. (L2, 3cr)

- Physical and health-related hazards and their effects
- Control measures for common hazards
- Safe practices for handling equipment and materials
- Incident reporting processes

Identify practices that support wellbeing in a construction environment. (L3, 3cr)

- Personal factors and behaviours outside of work that can affect a worker
- Positive practices in a construction environment and the impact on health and wellbeing

Contribute to a healthy and safe team

- Input is given to workplace health, safety, and wellbeing practices
- Practices for site safety are implemented
- Behaviours promote the safety and wellbeing of self and others

Identify hazardous substances relevant to construction environments (L3, 4cr)

- Hazardous substances and their specific dangers
- The cause and common locations or situations hazardous substances may be present

Apply controls to manage hazardous substances identified

- Industry good practice requirements for implementation of control measures for hazardous substances

Sustainability (11 credits)

Reduce material waste in a construction environment. (L2, 3cr)

- Environmental, social, and financial benefits of material waste reduction
- Recyclable materials identified
- Material waste is reduced

Protect the environment when undertaking construction work. (L3, 3cr)

- Protect waterways during work
- Protect the natural environment during work
- Knowledge of on-site environmental emergency responses

For example:

Controlling discharge of contaminants from the site.

Contribute to environmentally sustainable practices. (L4, 5 cr)

- Comply with the environmental protection plan

Contribute to economically sustainable practices.

- Practices are demonstrated that optimise the sustainable use of materials, time, and resources

Contribute to socially sustainable practices.

- Respectful of the cultural considerations of the place and people involved in and neighbouring the construction environment

Compliance (11 credits)

Maintain standards of work in a construction environment (L3, 5cr)

- Relationships between Acts and other parts of the legislative framework
- Familiar tasks comply with legislative requirements
- Maintain currency with industry good practice

Implement compliance practices in a construction environment (L4, 6cr)

- Role and responsibilities of restricted building work.
- Building consent responsibilities.
- Consumer protection responsibilities for work.
- Carry out work to meet compliance requirements.
- Carry out planned quality checks.

For example:

Understanding the building consent process - The application, RFI's, inspections and Code Compliance, Electrical cert.
Barrier requirements for pools (knowledge) and Temporary fencing for construction (practice)

Site preparation (18 credits)

Establish a site for construction work. (L4, 6cr)

- Confirm site and pool location, access, underground & overhead services, facilities and delivery requirements
- Practices for storing materials
- Establish temporary site fencing

For example:
Planning for environmental management strategies (i.e. specific sediment control)

Carry out cut and fill formation for earthworks. (L4, 12cr)

- Confirm levels and confirm method of excavation. (Do)
- Load, haul, and unload material ready for cartage (Do)
- Cut, formation and compaction of fill to achieve required density. (Supervision of work)
- Confirm readiness of subgrade improvements and compaction in preparation for swimming pool.

For example:
Basic geotechnical knowledge of ground to be able to follow instructions of others "engineers" to confirm suitable bearing.

Circulation systems (35 credits)

Detect leaks in swimming pools. (5cr)

- Enterprise requirements for leak detection
- Leak detection processes (including equipment)
- Basic leak repairs based on testing processes

For example:
Basic understanding of new pools.
Older pools can outsource.
Identification and elimination practices

Install swimming pool and spa circulation systems and components. (30cr)

- Protect existing underground services prior to excavation
- Position of circulation equipment
- Excavate trenches for pipework and backfill and compact after installation
- Install and test pipework for leaks

For example:
Hydraulics

PRECAST POOLS

Install precast concrete pools (50 credits)

Prepare to install precast pool.

- Set out and mark pool position, finish height and excavation depth
- Confirm installation of circulation pipework

Install precast pool and commission ancillary systems.

- Provide information for lifting, positioning and setting precast pool
- Attach ancillary equipment and piping
- Fill pool with water and balance water chemistry
- Commission filtration, circulation, heating and lighting systems

For example:
Lift plan requirements
Ground protection requirements
Commission – is related to responsibility for, rather than required to do.

Conduct client handover.

- Project completion and supply of inclusions
- Demonstrate operation of settings, adjustments and routine maintenance requirements
- Precast pool equipment guarantees, warranties

Supervise concreting work (10 credits)

Supervise on-site preparation of concrete work.

- Monitor setup of materials, tools, and equipment
- Monitor and confirm suitability of excavation and preparation of sub-grade
- Direct formwork installation and confirm level heights
- Inspection of reinforcement placement
- Confirm readiness for concrete pour

Monitor and manage concreting on-site work.

- Monitoring weather and apply contingencies
- Confirm accuracy of concrete and supervise pour, compaction and levelling
- Manage concrete finish
- Confirm quality of concrete work

Above-ground pools

Install swimming pool subsoil drainage (20 credits)

Prepare for and install subsoil drainage

- Set out position and depth of drainage
- Excavate trench depth and width
- Install and compact drainage material to determined levels
- Install drainage pipework and backfill trenches

Supervise concreting work (10 credits)

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Monitor and manage concreting on-site work.

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- Manage concrete finish
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Install above-ground swimming pool (40 credits)

Prepare for pool installation.

- Set out and mark pool position and finish height
- Remove grass and topsoil and excavate to the determined depth and level
- Fill, spread, screed and compact base

Assemble pool.

- Determine starting point, and prepare pool base and wall components
- Assemble wall material, complete all fixtures and mask to protect internal lining
- Install internal pool liner and secure linking and finish pool capping

Install reticulation system.

- Measure, locate and fit skimmer and return
- Locate and install pump, plumbing pipes and filtration system
- Fill pool and check pool and ancillary equipment for leaks

Fibreglass pools

Install swimming pool subsoil drainage (20 credits)

Prepare for and install subsoil drainage

- Set out position and depth of drainage
- Excavate trench depth and width
- Install and compact drainage material to determined levels
- Install drainage pipework and backfill trenches

Install prefabricated fibreglass swimming pools (50 credits)

Plan installation of prefabricated swimming pool.

- Confirm location of filtration and circulation system and lighting requirements
- Set out and mark pool position, finish height and excavation depth

Install prefabricated fibreglass swimming pool.

- Excavate to set out depth and side clearance, allowing for backfill
- Prepare base
- Confirm installation of circulation pipework to shell of swimming
- Provide information for lifting, positioning and setting shell to the specified level

Concrete Pools

Install swimming pool subsoil drainage (20 credits)

Prepare for and install subsoil drainage

- Set out position and depth of drainage
- Excavate trench depth and width
- Install and compact drainage material to determined levels
- Install drainage pipework and backfill trenches

Apply sprayed concrete to shape and finish swimming pools (60 credits)

Plan and prepare for concreting work

- Identify shape and finish of sprayed concrete requirements
- Determine concrete properties and test concrete
- Confirm bonding requirements, luminaires, other cabling services, filtration and recirculation plumbing
- Confirm accuracy, stability and strength of formwork
- Mask and protect ancillary installations

Determine compliance with structural principles.

- Swimming pool design meets structural principle requirements
- Confirm reinforcement and components fixing
- Confirm suitability of concrete

Supervise finish process to concrete shell.

- Establish starting point for application of concrete
- Direct application of concrete to specified thickness and reinforcement coverage
- Control shaping of pool shell contours, stairs and landing
- Direct an even finish of walls, base, coving and stairs
- Check operation of recirculation system

For example:
Spray is a type/example of process