

Revision of *Composites* qualifications

National Certificate in Composites (Level 3) [Ref: 1157]

National Certificate in Composites (Level 4) [Ref: 0121]

Main changes resulting from the revision

- The titles, classifications, levels, and credit values of the unit standards in these qualifications have been updated to match the current versions of the unit standards.
- The credit range tables for these qualifications have been updated, and the credit total for the National Certificate in Composites (Level 3) [Ref: 1157] has increased from 77 to 79.
- The NQF classification of the qualifications has been updated to Manufacturing>Composites.

There are no transition implications resulting from these changes.

Revision of *Composites* unit standards

Subfield	Domain	Id
Mechanical Engineering	Composites	3160-3198

Main changes resulting from the revision

- Unit standards in the Composites domain of the Mechanical Engineering subfield have been reclassified in the new Industrial Composites, Specification and Design Composites, and Production Composites domains of the Composites subfield.
- The accreditation statements in the unit standards have been updated to match those in AMAP 0136.

Impact on existing provider accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification	Level	Nature of accreditation	Classification	Level
Subfield	Mechanical Engineering	Any	Domain	Industrial Composites	Same
				Specification and Design Composites	
				Production Composites	
Domain	Composites	Any	Domain	Industrial Composites	Same
				Specification and Design Composites	
				Production Composites	

Impact on Accreditation and Moderation Action Plan (AMAP)

The unit standards have been transferred from AMAP 0013 to AMAP 0136.

Impact on existing qualifications

Qualifications that contain the revised standards or classifications are tabled below.

Affected	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
Not materially affected	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following BITO qualifications are not materially affected by the changes and will be updated when they are next reviewed or revised.

Qualification title	Standards in the qualification
National Certificate in Boatbuilding (Level 4) with strands in Marine Cabinetmaking, Composite Sparmaking, Alloy Boatbuilding, Marine Rigging, Marine Painting, Composite Boatbuilding, Steel Boatbuilding, Wooden Boatbuilding, Marine Systems Engineering, Metal Sparmaking, Composite Production Trailer Boats, and Alloy Production Trailer Boats [Ref: 0877]	3160-3162, 3165-3171, 3177, 3179, 3181-3186, 3190, 3192, 3193, 3196, 3198
National Certificate in Boatbuilding (Fill and Fair Marine Substrates) (Level 3) [Ref: 1493]	3198

The following BITO qualifications are also not materially affected by the changes and have been revised to take account of the changes.

Qualification title	Standards in the qualification
National Certificate in Composites (Level 3) [Ref: 1157]	3160-3180, 3182-3186, 3189, 3190, 3192, 3193, 3196, 3198,
National Certificate in Composites (Level 4) [Ref: 0121]	3160-3180, 3182-3184, 3186, 3189, 3190, 3192, 3193, 3196, 3198

The following qualifications are affected by the changes. The standard setting body (SSB) has been advised that they require revision.

Qualification title	Classification in the qualification	SSB Name
National Certificate in Glass Container Manufacturing (Level 3) with strands in Batch and Furnace; and Forming [Ref: 1360]	Engineering and Technology > Mechanical Engineering > Composites	Plastics and Materials Processing Industry Training Organisation Incorporated
National Certificate in Plastics Processing Technology (Production) (Level 1) with strands in General, Injection Moulding, Extrusion, Blow Moulding, Thermoforming, Blown Film Extrusion, Film Conversion, Injection Stretch-Blow Moulding, Rotational Moulding, Film Slitting, and Expanded Polystyrene Moulding [Ref: 1361]		
National Certificate in Plastics Processing Technology (Production) (Level 2) with strands in General, Injection Moulding, Extrusion, Blow Moulding, Pressure Thermoforming, Vacuum Thermoforming, Blown Film Extrusion, Film Conversion, Injection Stretch-Blow Moulding, Rotational Moulding, Expanded Polystyrene Moulding, and Polystyrene Pre-expansion [Ref: 1362]		
National Certificate in Plastics Processing Technology (Production) (Level 3) with strands in General, and Expanded Polystyrene Moulding [Ref: 1363]		
National Certificate in Paint Manufacturing (Level 2) [Ref: 1364]		
National Certificate in Paint Manufacturing (Level 3) [Ref: 1365]		

The following qualifications are not materially affected by the changes. The standard setting body (SSB) has been advised that they require revision.

Qualification title	Standard in the qualification	SSB Name
National Certificate in Motor Industry (Automotive Body) (Level 4) with strands in Coachbuilding, Collision Repair, and Refinishing [Ref: 1414]	3192	NZ Motor Industry Training Organisation Incorporated
National Certificate in Motor Industry (Automotive Specialist Engineering) (Level 4) with strands in Automotive Heating, Ventilation, and Air Conditioning; Automotive Machining; Diesel Fuel Injection; and Motorsport [Ref: 1416]	3192	

Summary of main changes

All changes are in **bold**.

Engineering and Technology > Mechanical Engineering > Composites

Manufacturing > Composites > Industrial Composites

Id	Title	Level	Credit
3163	Produce a bisphenol resin item to a product specification for composites	3	5
3172	Produce an item by resin injection for composites	4	7
3174	Produce an item by hot press moulding for composites	4	7
3175	Produce an item by pultrusion for composites	4	7
3176	Produce an item by filament winding for composites	4	7
3178	Produce a laminate by mechanised continuous lamination for composites	4	7
3180	Produce an item by centrifugal force for composites	4	7
3190	Repair damaged or faulty composites	4	5

Manufacturing > Composites > Specification and Design Composites

Id	Title	Level	Credit
3187	Produce a laminate specification for composites	6	12
3191	Design an item for composite production technology	6	25
3194	Produce plug or pattern specification for composites	5	12
3195	Produce a mould specification for composites	5	12
3197	Produce a process specification for a composite	6	7

Manufacturing > Composites > Production Composites

Id	Title	Level	Credit
3160	Produce a laminated polyester resin item to a product specification for composites	3	5
3161	Produce an epoxy resin item to a product specification for composites	3	5
3162	Produce a vinylester resin item to a product specification for composites	3	5

Id	Title	Level	Credit
3164	Produce a phenolic resin item to a product specification for composites	3	5
3165	Produce a laminated item using resins that cure at elevated temperatures for composites	4	6
3166	Produce an item using resin pre-impregnated reinforcement for composites	4	5
3167	Deposit composite matrix with a depositor or chopper gun	3	6
3168	Deposit a polyester gel coat by hand for composites	3	4
3169	Deposit a polyester gel coat by spray method for composites	3	6
3170	Produce a laminate by vacuum bagging for composites	4	2
3171	Produce a cored laminate for composites	3	3
3173	Produce an item by resin transfer for composites	4	7
3177	Cure an item in an autoclave for composites	4	3
3179	Produce a laminate using a pre-wet machine for composites	3	2
3181	Produce a plug or pattern for composites	4	12
3182	Produce a mould or tool from a plug or pattern for composites	4	5
3183	Prepare pre-form materials for lamination for composites	3	4
3184	Prepare a mould for moulding for composites	4	5
3185	Demould laminated items for composites	3	6
3186	Finish product to specification for composites	3	5
3188	Engineer a laminate to design criteria for composites	6	40
3189	Produce composite items by casting for composites	2	5
3192	Provide for and attach fixings and fastenings in composites	4	4
3193	Apply quantity surveying to composite production	3	2
3196	Test properties of a composite laminate	4	10
3198	Alter resin rheology with fillers, extenders and additives for composites	5	3