

Field Engineering Technology**Review of *Engineering Drawing and Design* unit standards**

| Subfield | Domain | ID |
|------------------------|--------------------------------|---|
| Mechanical Engineering | Engineering Drawing and Design | 2430-2434, 2436, 2441, 4434, 20802-20804, 21910 |

Competenz has completed the review of the unit standards listed above.

Date new versions published

September 2016

Planned review date

December 2021

Summary

As a result of the Targeted Review of Qualifications process, Competenz has reviewed all unit standards in the Engineering Drawing and Design domain. This process led to the development of three new unit standards to replace existing ones to reflect new conditions listed in the graduate profile outcomes in qualifications requiring knowledge of the interpretation and construction of drawings.

Meetings with subject matter experts were conducted, identifying the required content and comparing this content against existing unit standards. It was identified that the majority of the unit standards in the domain required only minor changes but three unit standards used in the mechanical engineering apprenticeship programmes required considerable redevelopment to meet industry need. The review and content of new standards is based on extensive feedback with industry experts and is endorsed by industry and providers. While the three new standards can be used individually, it is intended to use them to assess learners in a graduated fashion, with each unit standard building on the recommended pre-requisite unit standard or standards.

Main changes

- Development of three replacement standards for graduated assessment of mechanical engineering and fabrication apprenticeships starting from drawing interpretation then introducing engineering sketching and finally technical drawing.
- Changes to unit standards 20802-20803 to allow the use of 3D software to produce 2D drawings which reflects current industry practice.
- Changes to explanatory notes and related evidence requirements to standardise terminology.

Category C unit standards will expire at the end of December 2021

Impact on existing organisations with consent to assess

| Current consent for | | | Consent extended to | | |
|---------------------|--------------------------------|-------|---------------------|----------------------|-------|
| Nature of consent | Classification or ID | Level | Nature of consent | Classification or ID | Level |
| Subfield | Mechanical Engineering | 2 | Standard | 29653 | 3 |
| Domain | Engineering Drawing and Design | 2 | Standard | 29653 | 3 |
| Standard | 21910 | 3 | Standard | 29654 | 2 |
| Standard | 2430 | 2 | Standard | 29655 | 2 |
| Standard | 2432 | 2 | Standard | 29653 | 3 |

Detailed list of unit standards – classification, title, level, and credits

All changes are in **bold**.

| Key to review category | |
|------------------------|---|
| A | Dates changed, but no other changes are made - the new version of the standard carries the same ID and a new version number |
| B | Changes made, but the overall outcome remains the same - the new version of the standard carries the same ID and a new version number |
| C | Major changes that necessitate the registration of a replacement standard with a new ID |
| D | Standard will expire and not be replaced |

Engineering and Technology > Mechanical Engineering > Engineering Drawing and Design

| ID | Title | Level | Credit | Review Category |
|--------------|--|----------|----------|-----------------|
| 2430 | Manually produce and interpret engineering sketches under supervision | 2 | 4 | C |
| 29655 | Manually produce engineering sketches | 2 | 3 | |
| 2431 | Manually produce and interpret simple engineering component drawings under supervision | 2 | 8 | B |
| 2432 | Manually construct plane geometric shapes for engineering | 2 | 3 | C |
| 29653 | Manually produce third angle orthographic drawings of simple engineering objects incorporating plane geometric shapes | 3 | 3 | |
| 2433 | Produce simple engineering component drawings using CAD software Produce engineering component drawings using CAD software | 2 | 6 | B |
| 2434 | Manually produce detailed engineering drawings under supervision | 3 | 12 | B |
| 2436 | Create three-dimensional engineering models under supervision Create three-dimensional engineering models using CAD software under supervision | 3 | 5 | B |
| 2441 | Create complex three-dimensional engineering models | 5 | 12 | B |

| ID | Title | Level | Credit | Review Category |
|--------------|---|----------|----------|-----------------|
| 4434 | Demonstrate knowledge of basic geometric form in engineering | 1 | 1 | B |
| 20802 | Produce detailed two-dimensional engineering drawings using CAD software under supervision | 3 | 6 | B |
| 20803 | Manually produce advanced two-dimensional engineering drawings | 4 | 12 | B |
| 20804 | Produce advanced two-dimensional engineering drawings using CAD software | 4 | 8 | B |
| 21910 | Interpret mechanical engineering drawings | 3 | 5 | C |
| 29654 | Demonstrate knowledge of and interpret mechanical engineering drawings and geometric tolerancing | 2 | 3 | |