

# Evaluation and Benchmarking of the Diploma in Non-Ferrous Metallurgical Technology from Lanzhou Resources and Environment Vocational Technical College

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## Context and scope

Lanzhou Resources and Environment Vocational Technical College commissioned Ecctis for an independent evaluation and benchmarking of its Diploma in Non-Ferrous Metallurgical Technology, which was completed in March 2023.

The Diploma in Non-Ferrous Metallurgical Technology is one of the many programmes the College delivers, alongside Geology, Surveying and Mapping, and Water Conservancy.

The main aims of the benchmarking were to:

- Establish comparability in the context of the UK through reference to the Regulated Qualifications Framework (RQF), and by extension, the European Qualifications Framework (EQF)<sup>1</sup>
- Assess the extent to which the College's underpinning quality assurance meets a set of international standards.

## Key findings

The Diploma in Non-Ferrous Metallurgical Technology seeks to develop students' knowledge in non-ferrous technology, smelting engineering and rolling processing industry. In line with national requirements, the Diploma also encompasses "public basic courses" which include topics from arts, social sciences and science domains.

The general entry requirement for the programme is the National College Entrance Examination (NCEE, popularly known as the *gaokao* 高考) – comparable to GCE A Level / RQF Level 3 in the UK – or suitable marks in one of the College's own tests.

The Diploma is a three-year full-time programme equating to approximately 2424 hours' guided learning time. Reflecting its vocational focus, the Diploma combines classroom-based study with practical-based simulated learning in the form of an internship that takes place in student's third year of study.

Upon completion, many students enter the workforce; however, some students will be eligible to apply for top-up Benke (本科) / Bachelor degree programmes. These require a

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<sup>1</sup> To date, a total of 36 countries have now referenced their national education systems to the EQF.

minimum of two years of further study, which shows that the Diploma has similar academic progression routes to that of HND, Diploma of Higher Education and other UK Level 5 awards.

The study revealed several strengths of the Diploma in Non-Ferrous Metallurgical Technology, namely that it demonstrated:

- A focus on preparing graduates for the workplace and labour market needs. This is reflected in the course content and the practical approach. The success of this is further evidenced by the Diploma's high rate of graduate employment.
- An established system for monitoring the quality of teaching methods and teaching staff through supervision, graduate feedback, informal and formal meetings, and annual graduate surveys.
- That teaching and learning is well supported by high-quality facilities including simulated environments and key equipment designed to support the students' knowledge and understand of complex, large scale industrial processes which prepare students for the workplace.
- The use of an aluminium electrolysis simulation operating system that integrates a physical dynamic model with a virtual simulation system. This system is based on the most advanced aluminium electrolysis equipment.
- That students are highly satisfied with teaching and learning.

**In terms of international comparability, the Diploma in Non-Ferrous Metallurgical Technology has been found comparable to Level 5 of the RQF and EQF. It has also met international quality standards in the following five areas:**

- **Admission**  
There is a pre-defined and published admissions policy ensuring transparency in the admissions policy and supporting consistency in admissions decisions
- **Programme development, approval, monitoring and review**  
There is a clear, process in place for the design, approval and monitoring of programmes
- **Teaching and learning**  
There is a formalised process for monitoring the quality and effectiveness of delivery, relevant to the modes of study employed
- **Assessment**  
Assessment provides a sufficiently fair, valid and reliable evaluation of the intended knowledge, skills and competencies

- **Information**

The information available to prospective students, current students and other interested stakeholders is accurate, transparent and clear for the intended audience.

## Engagement

Lanzhou Resources and Environment Vocational Technical College has committed to further development and engagement encompassing:

- Undertake a comprehensive review of the Diploma in Non-Ferrous Metallurgical Technology documents at programme, module, and topic level to centre programme design around the intended learning outcomes.
- Undertake a review of assessment – both the overall assessment framework and the existing assessments.
- Considering procedures for monitoring and supporting the performance of part-time teachers in enterprises, to strengthen the overall teaching provision.
- Ensuring the transparency of the qualifications required for teaching staff involved in the delivery of the Diploma which can be used as evidence to support the high level of teaching delivery.
- Ensuring Information detailing the continual professional development available to teachers is documented so feedback from the monitoring of teachers' performance can be linked to opportunities for improvement and development.
- Ensuring assessments are revised so they assess higher level skills associated with RQF level 4 and 5.
- Developing a unified internal quality assurance handbook which would help to consolidate all existing written policies and process, as well as documenting any unwritten policies or processes.
- Maintaining and ensuring adoption by all staff of the unified quality assurance handbook.

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Ecctis is a gold-standard provider of services in international education, training, and skills, and in the development and recognition of globally portable qualifications. We are an internationally trusted and respected reference point for qualifications and skills standards.

We are UK-based and operate worldwide, with a global network and client base spanning 62 countries and 5 continents. We have a 20-year track record in international consultancy and development.

Ecctis provides official UK national agency services on behalf of the UK Government in qualifications, skills, and migration – including UK ENIC, formerly UK NARIC.

UK ENIC is the UK National Information Centre for global qualifications and skills. Following the UK's leaving the EU, the former UK NARIC recognition agency function changes from a NARIC (which is an EU-only title) to an ENIC (the wider European title for national recognition agencies) in order to meet the UK's continuing treaty obligations under the [Lisbon Recognition Convention](#).

Since 2019, through our China representatives and Beijing office Nalike, and our UK China Council and UK NARIC China Council projects, we have conducted qualification benchmarking in China and fostered educational links between China and other countries, to support the internationalisation efforts of China's higher vocational colleges.