

Evaluation and Benchmarking of the Diploma in Material Engineering Technology (Super Hard Materials) from Zhengzhou Technical College

Context and scope

Zhengzhou Technical College commissioned Ecctis for an independent evaluation and benchmarking of its Diploma in Material Engineering Technology (Super Hard Materials), which was completed in October 2023.

The Diploma in Material Engineering Technology (Super Hard Materials) is one of 59 programmes delivered by the College including in the areas of Pharmaceutical Biotechnology, Internet of Things technology, and Bioengineering.

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).¹
- Assess the extent to which the College's underpinning quality assurance meets a set of international standards.

Key findings

The Diploma in Material Engineering Technology (Super Hard Materials) seeks to develop students' knowledge in the manufacturing of super hard materials. 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 2934 hours' guided learning time. Reflecting its vocational focus, the Diploma combines classroom-based study with practical-based simulated learning and a third-year internship that includes 30% of the students' practical hours.

Upon completion, many students enter the workforce²; however, some students will be eligible to apply for top-up Benke (本科) / Bachelor degree programmes. These require a

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

² The employment rate of graduates is typically 96%.

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 Material Engineering Technology (Super Hard Materials), namely it demonstrated that:

- Access to highly specialist equipment / facilities both in-house and externally is a key strength of the programme, which is enabled by strong collaborations with external industries.
- The programme is designed in collaboration with industrial partners through an industrial advisory board; therefore, it is well aligned with industrial employment needs, as evidenced by a very high graduate employment rate.
- There is comprehensive documentation and a formalised process for on-campus instructors and industry mentors to support and guide students through the internship and post practice assessment.

In terms of international comparability, the Diploma in Material Engineering Technology (Super Hard Materials) 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

Zhengzhou Technical College has committed to further development and engagement encompassing:

- Writing new learning outcomes at programme level, ensuring these are specific, measurable adequately capture the higher-level knowledge and critical thinking skills developed and assessed within the Diploma.
- Developing a programme assessment framework/plan. Undertaking a review of final year written exams to strengthen the questions posed, ensuring papers sufficiently test critical thinking skills such as analysis and evaluation.
- Ensuring that there is a clear policy on programme assessment plans. Assessments should be developed so that they are clearly linked to intended learning outcomes. There should be clear limits on the use and weighting of attendance as part of the assessment.
- Developing a unified internal quality assurance 'handbook' for the College. This should bring together all existing written policies and processes and formalise any unwritten policies or processes.
- Maintaining and ensuring adoption by all staff of the unified quality assurance handbook.

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.