

Evaluation and Benchmarking of the Diploma in Applied Chemical Technology from Henan Technical Institute

Context and scope

Henan Technical Institute commissioned Ecctis for an independent evaluation and benchmarking of its Diploma in Applied Chemical Technology which was completed in August 2024.

The Diploma in Applied Chemical Technology is one of more than 50 qualifications delivered by Henan Technical Institute, including areas such as biological and chemical engineering, electronic information, finance and commerce, and medicine and health.

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 Applied Chemical Technology aims to develop students' knowledge and skills in chemical product manufacturing, as well as chemical engineering, chemical drawing, Computer-Aided Design (CAD) and laboratory technology. 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 2748 hours of guided learning time. Reflecting its vocational focus, the Diploma combines classroom-based study with project-based learning and assessed professional practice in the form of an internship that allows students to gain hands-on practical experience within a real-world environment.

Upon completion, many students enter the workforce; however, some students will be eligible

¹ To date, a total of 35 countries have now referenced their national education systems to the EQF.

to apply for top-up Benke (本科) / Bachelor degree programmes. These require a 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 Applied Chemical Technology, namely that it demonstrated:

- The high number of contact hours ensures that students experience significant levels of instruction and feedback.
- Students can tailor their learning through optional modules in specialist areas such as contemporary industry progress, fine chemicals, clean production, water treatment technology, petrochemicals and product inspection.
- Classrooms equipped with specialist computing equipment and work stations foster students development of CAD skills and afford students the opportunity to practice their theoretical knowledge and skills in low-stakes, simulation-based environments.
- A diverse range of facilities related to equipment assembly, unit and process operation, and pure water production allows students to gain hands-on experience in realistic facilities.
- Enterprise instructors and College teachers jointly assess students during the internship, providing a diverse perspective on students' practical chemical technology skills alongside appraising soft skills such as communication, teamworking, and adaptability.
- Evidence for the inclusion of student feedback combined with a comprehensive teacher assessment system and various CPD opportunities for staff signal the College's commitment to maintaining and further improving high standards in teaching and learning.

In terms of international comparability, the Diploma in Applied Chemical 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

Henan Technical Institute has committed to further development and engagement encompassing:

- Writing new learning outcomes at programme and module-level, ensuring these are specific, measurable, and feasible. Ensure that learning outcomes explicitly target higher level of knowledge and critical thinking skills, in line with RQF Level 5 descriptors.
- Developing a programme assessment framework/plan.
- Adopting assessment and marking approaches that sufficiently test critical thinking skills such as analysis and evaluation.
- Ensuring that the processes for each stage of programme development are clearly defined and linear in approach.
- 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.
- Developing a unified internal quality assurance ‘handbook’ for the College to 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 25-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 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 and universities.