

Evaluation and Benchmarking of the Diploma in Applied Chemical Technology from Hebei Chemical & Pharmaceutical College

Context and scope

Hebei Chemical & Pharmaceutical College commissioned Ecctis for an independent evaluation and benchmarking of its Diploma in Applied Chemical Technology, which was completed in December 2022.

The Diploma in Applied Chemical Technology is one of 57 programmes currently offered by the College across subjects such as chemistry, medicine, IT, intelligent manufacturing, and e-commerce logistics. It aims to prepare students for roles in the chemical production industry.

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 is designed to develop students' knowledge in a range of specialist occupational modules such as chemical production technology, analytical chemistry, operation and control of chemical reactor, and chemical instrumentation and automation. 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 2570 hours' guided learning time. Reflecting its vocational focus, the Diploma combines classroom-based study with practice-based simulated learning and assessed professional practice in the form of an assessed internship.

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

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

eligible 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:

- A range of large-scale laboratories and workshops where students put in practice what they learn in simulated environments, in order to develop skills relevant for the workplace.
- Strong links with partners in industry to ensure that the programme remains relevant and adapts appropriately to industry needs.
- Use of a range of practical-based assessment methods to test students' competencies, aligning well with the overarching programme focus on developing practical knowledge and skills.
- An inclusive process for programme approval and review by a range of stakeholders, including the Academic Affairs office, the Program Construction Committee and the Department of Education.
- An established system for monitoring the quality of teaching methods and teaching staff, which leads to continuing professional development for programme faculty.

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

Hebei Chemical & Pharmaceutical College has committed to further development and engagement encompassing:

- Revision of learning outcomes across all programme modules, to ensure they are specific, measurable and feasible, and form a firmer basis for assessment design and marking
- Review of the overall assessment framework, including module assessments and their weighting to better understand how individual course elements are assessed
- Review of assessment strategies across modules to ensure they link appropriately to module learning outcomes and that assessment tasks better test higher cognitive skills expected at RQF Level 4 and 5
- 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.