

# Evaluation and Benchmarking of the Diploma in Mechanical Manufacturing and Automation from Tangshan Polytechnic College

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## Context and scope

Tangshan Polytechnic College commissioned Ecctis for an independent evaluation and benchmarking of its Diploma in Mechanical Manufacturing and Automation which was completed in March 2023.

The Diploma in Mechanical Manufacturing and Automation is one of 46 programmes delivered by the College, alongside Ceramic Design and Technology, EMU Maintenance Technology, and Mechatronics Technology.

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 Mechanical Manufacturing and Automation seeks to develop students' knowledge in equipment manufacturing, mechanical design engineering, and machining. 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 2960 hours' guided learning time. Reflecting its vocational focus, the Diploma combines classroom-based study with practical-based simulated learning and students develop their practical skills in an internship environment that mirrors the real-life workplace, preparing them for employment.

Upon completion, many students enter the workforce<sup>2</sup>; however, some students will be eligible

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

<sup>2</sup> The employment rate of graduates is typically 98%.

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 Mechanical Manufacturing and Automation, namely that it demonstrated:

- Systematically structured content that enabled appropriate development of subject-specific understanding.
- An in-depth workplace placement which places a heavy emphasis on practical skills, setting up students well for success in industry upon employment.
- An excellent range of facilities with relevant technologies support practical learning on the programme.
- An admissions approach that is fair and is comparable with the approaches taken in the UK.
- A programme that is designed in a well-structured and robust way.
- A high employment rate of graduates from the programme which is a positive indicator of the graduate skills meeting the employer needs.
- Information that is publicly available to a range of stakeholders is well-structured and robust.

**In terms of international comparability, the Diploma in Mechanical Manufacturing and Automation 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

Tangshan Polytechnic College has committed to further development and engagement encompassing:

- Rewriting of learning outcomes at programme and module level to make them more specific and measurable and to establish critical thinking skills that students are expected to demonstrate in the programme, thereby ensuring the learning outcomes link appropriately to the assessment methods of the programme.
- Reviewing the assessment framework and the existing assessments. Development of a mapping document to show how each assessment links to the programme learning outcomes. Current assessments and approaches to marking should be reviewed in order to assess higher cognitive skills expected at Level 4 and 5.
- Guidelines for programme design, development and approval must be revised to ensure that learning outcomes reflect the knowledge and skills descriptors of Level 5.
- Designing programme specifications that detail the assessment strategies to be used and their link to module learning outcomes.
- Maintaining and ensuring adoption by all staff of the unified quality assurance handbook.

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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 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.