**Institute of Energy and Mechanical Engineering named after A. Burkitbayev**
**Department of Standardization, Certification and Metrology**

# EDUCATIONAL PROGRAM
# 8D07122 Engineering Metrology and Standardization in Mechanical Engineering

Code and classification of the field of education: 8D07 Engineering, Manufacturing and Construction
Code and classification of training directions: 8D071 Engineering and Engineering Trades
Group of educational programs: D103 Mechanics and Metalworking
Level based on NQF: 8
Level based on SQF (Sectoral Qualifications Framework): 8
Study period: 3 years
Amount of credits: 180

**Almaty 2026**

The Educational Program 8D07122 Engineering Metrology and Standardization in Mechanical Engineering» was approved at the meeting of the Management Board of Satbayev University

Minutes No. 5 dated March «10», 2026.

Reviewed and recommended for approval at the meeting of the Educational and Academic Council of K.I. Satbayev Kazakh National Research Technical University

Minutes No. 8 dated February «26», 2026.

Reviewed and recommended for approval at the meeting of the Educational and Methodological Council of K.I. Satbayev Kazakh National Research Technical University

Minutes No. 3 dated December «25», 2026

The Educational program 8D07122 Engineering Metrology and Standardization in Mechanical Engineering» was developed by Academic committee

Protocol No. 4 dated November «21», 2025

## 4. Passport of educational program

**4.1.** General information

| № | Field name | Comments |
|---|---|---|
| 1 | Code and classification of the field of education | 8D07 Engineering, Manufacturing and Construction. |
| 2 | Code and classification of training directions | 8D071 Engineering and Engineering Trades |
| 3 | Educational program group | D103 Mechanics and Metalworking |
| 4 | Educational program name | 8D07122 Engineering Metrology and Standardization in Mechanical Engineering |
| 5 | Short description of educational program | The educational program is designed to prepare highly qualified Doctors of Philosophy (PhD) capable of conducting research, engineering, and academic activities in the fields of engineering metrology, standardization, technical regulation, quality management, and conformity assessment within the mechanical engineering industry. The program develops advanced theoretical knowledge and research competencies in measurement assurance, improvement of metrological support systems, application of international ISO and ISO/IEC standards, as well as the implementation of digital manufacturing technologies and Industry 4.0 concepts in professional and scientific practice |
| 6 | Purpose of EP | Training of professional and scientific personnel with core competencies in scientific creativity and project activities, as well as skills in engineering standardization and metrology fields in the mechanical engineering industry, developed through theoretical training and their practical application within the framework of scientific research activities. |
| 7 | Type of EP | Innovative |
| 8 | The level based on NQF | 8 |
| 9 | The level based on IQF | 8 |
| 10 | Distinctive features of EP | No |
| 11 | Education form | Full-time |
| 12 | Period of training | 3 years |
| 13 | Amount of credits | 180 |
| 14 | Languages of instruction | Kazakh, Russian, English. |
| 15 | Academic degree awarded | Doctor of Philosophy PhD |
| 16 | Developer(s) and authors | Omarova Zhansaya Bagdatkyzy, Tatybayev Mukhtarbek Kalmurzayevich, Duysenbekova Orazkul Ospanovna, Aimagambetova Raushan Zhanatovna |