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Course development guide for education about standardization - Standardization fundamentals

标准化教育课程建设指南 标准化基础知识

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1.Structure and drafting rules for standardization documents" Drafting. Please note that some of the contents of this document may involve patents. The issuing organization of this

document does not assume the responsibility for identifying patents. This document was proposed and coordinated by the National Standardization Education Standardization Working Group (SAC/SWG27). This document was drafted by: Shenzhen University of Technology, Shenzhen Zhibiao Technology Co., Ltd., Zhongnan University of Economics and Law, Liaoning University of Technology, China Jiliang University, Guangdong Province Dongguan Quality and Technical Supervision Standards and Coding Institute, Institute of Biomedical Engineering, Chinese Academy of Medical Sciences, Qilu Industrial University, Beijing Agricultural College, Tianjin University, Shenzhen University, Beijing Institute of Standardization, Shenzhen Polytechnic, Hebei University, Hefei University of Technology University, Wuhu Standardization Research Institute, Guangdong Research Institute of New Biomaterials and High-end Medical Devices, Guangdong Polytechnic College, Suzhou Jianxiong Vocational and Technical College School of Arts, The Affiliated High School of Renmin University of China, Yanshan University, Tangyi Holdings (Shenzhen) Co., Ltd., Jinan University, China National Institute of Standardization, National Standardization Association, Shenzhen Institute of Standards and Technology, Beijing Zhongbiao Saiyu Technology Co., Ltd., Beijing University of Technology, Jinan University Shenzhen Tourism College, Liuzhou Branch of China Southern Power Grid Co., Ltd. Ultra-high Voltage Transmission Company, First Affiliated Hospital of University of Science and Technology of China, Fangyuan Logo Certification Group Co., Ltd., Fuwai Hospital of Chinese Academy of Medical Sciences, Hubei Huake Ruicheng Standardization Technology Service Co., Ltd., Zhongkejian Kang Industry Group Co., Ltd., Anhui Huapu Productivity Promotion Center, Shaanxi Provincial Daoqi Standardization Technology Research Institute, Chinese Academy of Medical Sciences Beijing Union Medical College Hospital. The main drafters of this document are. Huang Manxue, Huang Lina, Wang Yu, Wang Hui, Zhong Cailin, Pu Jiangbo, Liu Xin, Dong Jun, Li Gang, Hu Yi, Tian Chuan, Zhu Yongshuang, Pang Yanrong, Wang Lijuan, Wang Pengjie, Zeng Jiaxin, Qi Hongli, Jia Rui, Jin Xin, Cai Wei, Zeng Qingxiang, Ren Shangjie, Yao Bo, Qi Ning, Liu Hongwei, Zhao Wenhui, Li Gang, Zhao Wuzhou, Qin Xiaohong, Wu Zeyu, Yang Guangdong, Fan Yuzhou, Song Yang, Li Shi, Fang Kun, Zhang Li, Yan Xinxin, Xia Weijia, Zhou Ruimei, Huang Xiaoxia, Zhu Peiwu, Wang Bo, Zhang Mengfei, Fu Yu, Li Ting, He Yanan, Li Shuting, Yi Tingting, Zhou Yajie, Chen Hongfang, Lu Zhe, Zhang Wenqi, Zhang Qian, Hou Shuai, Tan Cuicui, Yang Yingyun.

Talent is the first resource. In the process of promoting innovation and development in standardization work, professional standardization talents are particularly important. It is an important cornerstone for implementing the national talent-driven country strategy and standardization strategy in the new era, and is also the core force to ensure the smooth implementation of the above strategies. In view of this, it is particularly urgent to promote the innovation of talent training mechanism, and standardized education has become an important channel to achieve this strategic goal. The document is committed to implementing the National Standardization Outline, the 14th Five-Year Plan for the Construction of a National Standard System to Promote High-Quality Development, and the

Standardization According to the requirements of the Special Action Plan for Talent Cultivation (2023-2025), standardize the content and methods of standardization education and enhance the quality of standardization talent cultivation. Quality and efficiency inject continuous impetus into the country's sustainable development. It is of long-term strategic significance to build a comprehensive and complete standardized education curriculum system and standardize the construction of related courses. Basic knowledge is the basic introductory course of the curriculum system. It is universally applicable and extensive, covering the basic concepts, principles and The theory, methods and their applications help learners establish a basic understanding of standardization and cultivate their awareness of standardization and practical application capabilities. This plays an irreplaceable role in promoting the cultivation of standardization talents, improving the quality of standardization education, and promoting social and economic development. The purpose of this document is to provide specific curriculum construction guidance for the standardized basic education of general higher education and to clarify the orientation of the curriculum. The implementation of this document will help popularize standardization knowledge and enhance learners' standardization awareness and practical skills. The document can also provide a reference for the construction of standardized general courses in vocational education and continuing education, thereby expanding the scale and coverage of the standardized talent team. This measure will help cultivate more talents with standardization awareness and capabilities, and will help my country implement its standardization strategy and promote economic development. Provide strong support for high-quality development. Guidelines for the Development of Standardized Education Curriculum Basic knowledge of standardization

1 Scope

China's national guidance document on developing courses that teach standardization itself. The subject is unusual and the reason for it is deliberate policy: China has made standardization an instrument of industrial strategy, and a strategy of that kind needs people who understand how standards are written, how they are adopted, how conformity is assessed and how international standards bodies work - which is not taught anywhere in a conventional engineering or business curriculum. The gap is real internationally too. Engineers meet standards as constraints handed to them rather than as documents produced by a process they could participate in, and the consequence is that the people who write the standards an industry lives under are rarely the people who know the technology best. This document provides the general principles for developing a course in standardization fundamentals, with guidance on course design, implementation, evaluation and improvement and worked examples of teaching plans in several forms. It applies to general and professional foundation courses in higher education, vocational education and continuing education.

This document provides the general principles for the development of a standardized basic

knowledge curriculum, as well as guidance on curriculum design, implementation, evaluation, and improvement. It also provides examples of different types and forms of teaching plans. This document is applicable to the development and implementation of standardized basic general courses and professional basic courses in general higher education, vocational education, and continuing education. It can be used as a reference for standardized courses in continuing education and other forms.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 20000.1-2014 Guidelines for standardization work Part

3 Terms and definitions

The terms and definitions defined in GB/T 20000.1-2014 and GB/T 43294-2023 and the following apply to this document.

3.1 Education

3.1.1 Education Service The process of helping learners acquire and improve their abilities through teaching, learning or research. [Source: GB/T 43294-2023, 3.1.2]

3.1.2 Higher education Education provided through various colleges and other higher education institutions after completing high school education.

Note. Higher education includes technical college education, higher vocational education, undergraduate education and postgraduate education (master's and doctoral education).

3.1.3 Vocational education To enable learners to have the professional ethics, scientific culture, professional knowledge, and technical skills required to engage in a certain profession or achieve career development Education implemented to improve comprehensive professional qualities and action capabilities.

Note. Vocational education includes vocational school education and vocational training.