

Research on the Construction of Professional Basic Courses for “Golden Course”

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Abstract: In the context of the new liberal arts, in response to the actual construction of professional basic courses, aiming at the requirements of "golden courses" and "high-level, innovative, and challenging", research on curriculum construction is carried out. This article provides an overview of the basic situation of the curriculum, analyzes the current situation of the construction of "golden courses", and based on this, clarifies the goals of curriculum construction, and provides several measures for construction. Through research on curriculum construction, the quality of courses is further improved, thereby supporting the construction of high-quality majors and providing reference and laying the foundation for the construction of "golden courses" in subsequent professional basic courses.

1. Introduction

In 2018, the Ministry of Education issued a notice on implementing the spirit of the National Conference on Undergraduate Education in the New Era, which first used the concept of "golden courses" [1-2]. Most domestic universities have explored and practiced the construction of "golden courses" [3-4]. The professional basic courses are closely aligned with the needs of cultivating high-quality and specialized new talents, guided by the concept of "new liberal arts" construction, and deeply implement the college's positioning of "higher education based vocational education". The goal is to achieve the "high-level, innovative, and challenging" requirement of the national "golden course", emphasizing the teaching philosophy of "student-centered", closely combining theoretical technology with organizational application, and focusing on improving students' job skills [5-6]. Continuously innovate and design teaching content and methods, striving to meet the national standards for the construction of "golden courses".

2. Curriculum Construction Objectives

2.1. Strengthen Teaching Research and Improve the Level of Team Members

At present, a course team with a combination of elderly, middle-aged, and young students, a

combination of teaching and technology, profound professional knowledge, rich practical experience in the military, and a PhD as the main body has been preliminarily established. The course team closely follows the requirements of theoretical development and social development, studies current new technologies and theories, applies to participate in professional related topics, studies regulatory standards and norms, participates in tracking current frontline actions, integrates relevant content into course teaching, reflects the development of theoretical technology, the latest practical achievements, and the connection with the course.

The main measures taken are as follows: firstly, actively apply for or participate in teaching reform projects, write and publish teaching reform papers, and improve the teaching ability of team members; Secondly, encourage team members to participate in teaching competitions and strengthen their teaching abilities; Thirdly, actively apply for or participate in relevant scientific research projects in the field, enhance the research and innovation capabilities of team members, and timely introduce new theories and applications of research topics into the classroom; The fourth is to arrange team members to participate in professional technical training in their respective fields in a timely manner to improve their professional skills; The fifth is to encourage team members to participate in professional activities and increase their practical experience; Sixth, actively participate in the construction of conditions, strengthen cooperation and communication with manufacturers, and enhance the practical skills of team construction.

2.2. Build Practical Teaching Conditions and Form An Information Resource Library of "Online and Offline, Practical and Effective"

The school should utilize the advantages of member units of the Experimental Teaching Demonstration Center to establish a "laboratory + training base + joint teaching and training" environment tailored for future needs, and support cutting-edge research. It should build the latest theoretical system structure and forge practical, winning capabilities. The institution should develop a self-integrated simulation training system that encompasses guidance, control, and evaluation, bridging the training chain and supporting practical teaching.

After the completion of construction, achieve full spectrum coverage of superior distribution equipment in terms of types; Functionally, it combines practical training with simulation training; In terms of performance, purchase advanced equipment for practical training as needed; In terms of scale, achieve training conditions that meet the simultaneous operation of no less than 20 people; From a resource perspective, establish basic teaching materials such as teaching plans, textbooks, and courseware for the three courses, independently create MOOCs for the three courses, as well as related micro course groups, typical product template libraries, guides, operation manuals, simulation training systems, exercise libraries, and other characteristic resources, fully supporting the needs of online and offline learning; In terms of application, various methods and professional equipment can be used to build a training environment that is close to reality. At the same time, through the integrated network and the Internet, a systematic teaching and training environment of "interaction between infield and outfield, complementarity between practice and simulation, and combination of colleges and enterprises" has been formed, ensuring that the opening rate of practical teaching subjects specified in the curriculum teaching plan reaches 100%.

2.3. Restructure the Curriculum Content System, Optimize Teaching Methods and Means, and Cultivate the Generation of Teaching Outcomes

The school should implement the concept of "output-oriented, student-centered" education, aiming to enhance students' understanding and application abilities in professional knowledge as well as their comprehensive quality. It should follow the progression of "basic theory → working

principle → equipment operation → comprehensive practice" when designing module content such as "technology, equipment operation, and system application," reflecting the cognitive development and the law of ability generation from theory to basic practice and then to comprehensive application.

Persist in problem driven design of teaching content. The vast majority of teaching content is guided by the key and difficult problems encountered in the actual work process or the problems encountered in reality. Through problem introduction or creation of application scenarios, problems are analyzed from various levels such as technology, equipment, and external environment to form comprehensive conclusions, enabling students to understand the reasons and achieve a closed loop from problem generation to problem resolution, supporting the teaching goal of applying what is learned. As shown in the following figure.

Adopting methods such as combining theory and technology, strict training style, and creating a practical environment, we focus on cultivating student style and cultivating their sense of professional mission and responsibility. In the teaching of basic theory, emphasis is placed on consolidating the theoretical and technical foundation, organically integrating ideological and political education and thinking training; In basic operational practice teaching, we should strengthen the combination of theory and practice, and focus on cultivating students' operational skills; In the comprehensive application of practical teaching, building a practical environment that is close to reality, emphasizing the cultivation of thinking ability and organizational ability under practical conditions.

3. Curriculum Construction Measures

3.1. With the Reform of Teaching Content as the Main Focus, Develop Course Supporting Textbooks to Achieve the Integration of Theory and Technology in Course Teaching and the Development of Ability Orientation

With the goal of improving the "high-level, innovative, and challenging" of undergraduate courses and using course teaching content as the starting point, we will advance the task of compiling unified textbooks and key construction textbooks for the college, and complete the homework guide for supporting system operation and technical mechanisms. In terms of teaching content, we will effectively integrate students' interests, key content, and work needs, so that students can understand the purpose and significance, as well as master their methods and technical principles. In addition, the content of the textbook is guided by the analysis of professional needs. It collects, organizes, and explores the practical problems encountered in school enterprise activities in recent years and potential problems that may arise in the future, focusing on solving practical problems closely related to work positions and the future. This ensures that the textbook content reflects a high degree of practicality, providing students with effective technical methods to solve problems and cultivates their ability to solve complex problems.

3.2. Taking Joint Education, Training, and Research as an Important Way to Enhance the Abilities of Teachers and Achieve the Wholehearted Education, Reform, Innovation, and Development of the Curriculum Team

Students and educators should participate in various activities organized by the school, as well as teaching and research activities organized at the national, provincial, and municipal levels, such as those in Hubei Province and Wuhan City. During these activities, they should observe, remember, communicate, and think more. They should collect first-hand materials required for curriculum teaching and theoretical innovation while serving the unit well. They should learn excellent work

styles from the practice front line, identify problems in work, refine curriculum teaching content and research topics, and sort out complex problems in teaching. They should timely incorporate practical achievements into curriculum teaching to continuously promote the updating of teaching content, innovation of teaching methods, and innovation of group training models.

3.3. With Classroom Teaching Implementation as the Key Link, Improve Teaching Effectiveness, and Achieve the Development of Students' Learning Effectiveness towards Broadening Their Horizons, Exercising Their Thinking, and Enhancing Their Abilities

Based on the existing experimental platform and conditions for course teaching, we will strengthen the practical, cutting-edge, and exploratory teaching design in course practice teaching, assess student learning effectiveness based on current and future work needs, and achieve the integration of forward-looking knowledge such as subject basic course knowledge and artificial intelligence. This will help students combine theory and skills to tackle real-world issues, broaden their analytical approaches, and develop a sense of urgency and responsibility for future tasks, while improving their theoretical expertise.

4. Conclusions

The overall implementation of the course is in accordance with the national "golden Course" construction plan. In terms of teaching content: continuously tracking the development of theoretical and technological knowledge at home and abroad, actively participating in enterprise related activities, focusing on rolling updates of application content, and updating at least 1/5 of the content annually. In terms of teaching conditions: complete the publication of supporting textbooks as soon as possible, complete the online MOOC construction task, and record relevant micro videos; In terms of assessment conditions, we will accelerate the construction of the training and evaluation system. In terms of teaching materials, we will continue to collect relevant information about this course and build a comprehensive database as soon as possible. The next step will focus on increasing tilt in terms of organization, time, funding, and research direction to ensure continuous improvement and deepening of the curriculum.

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