

# Construction of Curriculum System Based on Arts-and-Engineering Combination in Higher Vocational Education

## *- A Case Study of Building Decoration Engineering*

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**Keywords:** Higher vocational education; Combination of arts-and-engineering; Curriculum system; Building decoration engineering

**Abstract.** This paper studied the strategy to construct the curriculum system based on the idea of arts-and-engineering combination and summarized four principles for the construction. Taking building decoration engineering as an example, this paper put forward specific construction strategies, including the strategy of arts platform, the technology module plus the comprehensive module, the strategy of professional skills plus general skills, and the strategy of being realistic but farsighted.

### Introduction

Higher vocational colleges should adhere to the school-running thought of “school enterprise cooperation, work-integrated learning”, which is decided by the occupation education goals. In practice, how to realize this school-running thought is the outstanding problem in building decoration engineering teaching reform in higher vocational education, due to its intersection, updated knowledge and techniques. According to the state council's decision to speed up the development of modern professional education, it puts forward the formation of a professional education curriculum system, which is closely integrated with distinctive features and dynamic adjustments. Through the combination of arts and engineering, the arts-and-engineering thought could be localized gradually, and the curriculum system complying with the teaching rules and features of building decoration engineering in higher vocational colleges is established as well.

### The Basic Meaning of Curriculum System Based on Arts-and-Engineering in Higher Vocational Education

**The situation of building decoration Engineering in higher vocational colleges.** The building decoration engineering major is to cultivate high skilled talents with decoration drawing, decoration design and decoration construction management abilities. Its mission is to highlight and cultivate high quality talents in accordance with the occupation requirements. This profession could simulate space effects through a professional software learning, a basic art education and related knowledge learning. It focuses on the innovation of thinking ability of students so as to make up lacking basic art learning, and allow them become integrated talents with professional skills and artistic accomplishment. From the point of long-term development, the professional learning must be set in the curriculum system. This curriculum not only should overcome the one-sided pursuit of theoretical teaching and ignore the cultivation of practical ability, but also should avoid the neglect

of basic professional knowledge. Therefore, student should have a certain art foundation and profound engineering background.

**The combination of arts and engineering.** Including building decoration engineering, several related majors have obvious intersections, such as arts, innovation, technique and engineering. Based on the arts-and-engineering curriculum system, students could obtain not only the concept and thought of engineering design, but also the thought and idea of arts. The arts in arts-and-engineering concept means arts, aesthetics and innovation, and the engineering means architecture, material and techniques. By carrying out the arts-and-engineering concept in every aspects of teaching, an excellent building decoration could be created to satisfy designers, builders and users.

**Curriculum system.** A scientific and reasonable curriculum system is the premise of talents training in higher vocational education and the carrier of teaching reform. The construction of curriculum system is guided by training objectives, oriented by social needs and adjusted in accordance with several factors, such as industry area. At present, the curriculum system in higher vocational colleges can be divided into compulsory courses and elective courses based on its nature, and classroom teaching and practices teaching according to the content. Besides, the curriculum system could be separated into basic quality courses and professional platform courses, professional module courses and professional elective courses based on categories, as show in Fig.1.

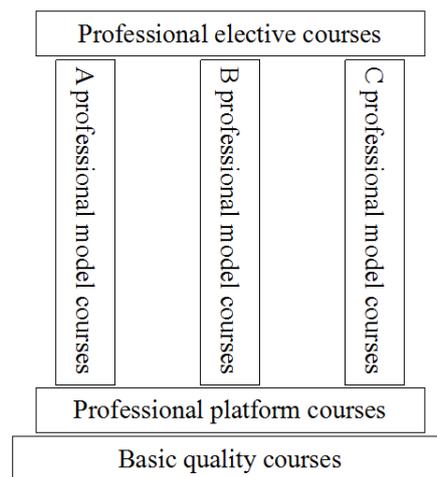


Fig.1 The categories of curriculum system

### The Construction Principle of Curriculum System Based on Arts-and-Engineering in Higher Vocational Education

**The principle of post capacity decision.** According to the state council's decision to speed up the development of modern professional education, it puts forward the progressive realization of the docking of professional settings and enterprises post demands, and the docking of course content and occupation standards. It is obvious that post capacity plays an important role in curriculum system construction. It could be reflected by post requirements and occupation standards, which are the foundation of curriculum system construction.

The post capacity of building decoration engineering could be divided into four categories. The modern general occupation capacity, that is, the basic capacity in every field, which is provided by basic quality courses. The basic capacity of engineering, that is, the basic capacity in engineering industry, which is provided by professional platform courses. The core capacity of building decoration engineering, that is, the necessary capacity in building decoration industry, which is provided by professional module courses. The extensive capacities of building decoration

engineering, that is, other capacities except from core capacities and basic capacities, which is obtained by professional elective courses, as shown in table 1.

Table 1 The corresponding table of post capacity and course category of building decoration engineering in higher vocational education

Curriculum categories	Post capacities	Capacity categories
Basic quality courses	Cultural quality Ideological quality	General occupation capacity
Professional platform courses	Aesthetic capacity Modeling capacity	Basic capacity
Professional module courses	Design capacity Management capacity Technical application capacity	Necessary capacity
Professional elective courses	Other design and application capacity	Extensive capacity

**The principle of arts leadership.** Due to the professional intersection of building decoration engineering, related practitioners inevitably need knowledge and skills in arts and engineering. Therefore, arts curriculum plays a leading role in curriculum system, and is an important link throughout the whole curriculum system.

**The principle of engineering support.** The professional intersection makes the building decoration engineering have complexity of arts and engineering. In general, the building decoration is realized by related techniques during its whole procedure, such as a original design, a construction management and etc.. Techniques, out of arts, must be lack of creativity, aesthetics and culture. On the contrary, arts ,out of techniques, must become a armchair strategist, leading to a design lacking of arts and engineering.

**The principle of complementarity in profession group.** The profession group is consist of one or more key professionals and other related addictive professionals. In recent years, higher vocational colleges take the building decoration engineering into different profession groups. Therefore, the existence of profession group creates a beneficial environment for the development of arts-and-engineering curriculum system. Meanwhile, due to the dual extension of arts-and-engineering curriculum system, the art professionals and engineering professionals have a closer integration gradually.

### **The Construction Strategy of Curriculum System Based on Arts-and-Engineering in Higher Vocational Education**

**Arts platform, the technology module plus the comprehensive module.** The arts-and-engineering curriculum system has an internal duplicity, which means it could be divided into two aspects, respectively are arts and engineering. The current mainstream curriculum system is combining a big platform and multi-directions in professional groups. The big platform means basic quality courses, which are consist of cultural courses and ethic courses. On one hand, arts belongs to professional group curriculum, that is, a big platform. On the other hand, engineering belongs to professional module curriculum, that is, a directional curriculum. It is obvious that arts and engineering are not completely separated, but become important parts in arts-and-engineering curriculum system.

**The strategy of professional skills plus general skills.** The training of higher vocational colleges should not only master solid professional skills training for students, but also continue to

strengthen their general skills, which could enhance their employment capacities. Therefore, through constructing the curriculum system of professional skills plus general skills, higher vocational colleges could cultivate high-quality skilled talents of building decoration engineering, and strengthen personnel training employment competition capacity and occupation development potentials.

**The strategy of being realistic but farsighted.** In June 2014, the education ministry and other six departments jointly issued “Modern professional education system construction planning (2014-2020)”, and proposed “the establishment of curriculum reform mechanism based on industrial technology innovation to improve the response speed of technological progress of the occupation education, and a dynamic curriculum system in higher vocational education”. Due to the improvement of popular aesthetics and quality of life, markets, industries and enterprises have higher sensitivities due to their front positions in consumption. The arts-and-engineering curriculum system should maintain their development, alternation and foresight. Thus higher vocational colleges could cultivate talents with technical skills and a keen sense of professional development.

### Summary

Through constructing scientific and reasonable arts-and-engineering curriculum system of building decoration engineering, higher vocational colleges could enhance their teaching efficiency, quality of personnel training and employment competition capacity. Its effective implementation not only needs to actively improve the practical capacity of teachers in higher vocational colleges by contacting markets, industries and enterprises, but also needs the school enterprise cooperation with first-class enterprises in building decoration industry. Only by the docking of markets, industries and enterprises, the arts-and-engineering curriculum system could play an irreplaceable role in building decoration engineering major.

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