

Curriculum Standard

Curriculum: Project Bidding and FIDIC Contract

Management

Major: Engineering Cost

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Checker: _____

Date: March, 2022



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Credit: 4.0

Class Hour: 68

Major: Engineering Cost

1. Preface

1.1 Course nature

Project Bidding and FIDIC Contract Management is one of the professional core courses of project cost specialty. It is an applied course focusing on project bidding and combined with the whole process of contract management. Its task is to train students to systematically learn the basic knowledge in the field of project bidding and understand the current situation and development trend of this field, Master the basic theories and methods of project bidding, and deeply understand the position and role of bidding and contract management in project management.

1.2 Design ideas

Guided by professional activities, the course teaching content of "knowledge, skills and quality" is created around the professional function and comprehensive professional ability. Through the analysis of the actual professional ability of engineering bidding and contract management, taking the actual work tasks of bidding and contract management as the starting point and the realization process of engineering bidding and contract management as the main line, Based on the professional qualification standards of engineering industry, construct the curriculum content and knowledge system. The selection of course content and knowledge closely focuses on the needs of completing work tasks, fully considers the needs of higher vocational education for theoretical knowledge learning, and integrates the requirements of relevant vocational qualification certificates for knowledge, skills and quality.

This course adopts the project teaching and task driven teaching method. According to the work flow design of engineering bidding posts and practical activities in the construction market, through the investigation and analysis of the ability requirements of engineering bidding posts, the work process and tasks of the posts are summarized. After the refinement of typical work tasks and processes, through integration, Develop and describe the work process oriented learning scenario, select appropriate carriers according to the objectives and contents of the learning scenario, and follow the life cycle of contract signing and management, namely: project proposal → feasibility study → survey and design → project bidding and tendering → contract negotiation → contract signing → project contract management; The project bidding, contract negotiation and signing are placed in the trading market (tangible construction market) to accept the supervision of the government, the learning situation is refined into several action oriented learning situations,

and the teaching materials of work study combination are compiled according to the sequence of work activities.

The teaching object of this course is higher vocational students from general colleges. Their characteristics are: weak logical thinking, lack of interest in theoretical courses, rapid forgetting of learned knowledge, adapting to the cognitive process from perceptual to rational, concrete to abstract. When there is feedback information, the learning efficiency is significantly improved. Therefore, this course designs bidding into four professional modules according to the process of engineering construction, that is, basic knowledge of bidding; Engineering design bidding, supervision bidding and goods bidding; Construction bidding and tendering; As a teaching carrier, construction project contract management and project claim serve as the circular teaching of classroom demonstration, after-school model practice and unit training objects in the teaching process of four professional projects. It not only enables students to internalize knowledge on the basis of skilled use of technology, but also cultivates students' technology application ability, autonomous learning ability and comprehensive professional quality.

Create a schoolwork assessment system with ability evaluation as the goal and projects of different majors as the unit. Schoolwork assessment evaluates students' knowledge mastery, professional ability, professional quality and other indicators from the aspects of "classroom practice performance, practice results and simulation project training results". Enhance students' interest and initiative in learning.

2. Course objectives

2.1.Overall objective

Overall objective of the course: through project bidding task decomposition and multiple project teaching, master the skills and relevant theoretical knowledge of bidding and contract management, cultivate the good quality of law-abiding, integrity, hard work, good communication and cooperation, establish the awareness of comprehensiveness, cooperation and unity, and lay a good foundation for the development of professional ability.

2.2 Specific objectives

2.2.1 Knowledge objectives

(1) Be able to understand the basic principles of bidding activities, the concept and work content of bidding agency;

(2) Be familiar with the bidding law and the method of guiding bidding to prevent illegal acts;

(3) Be able to organize construction project design bidding, including preparation of design bidding announcement, prequalification documents, bidding documents, bid opening, bid evaluation and bid determination;

(4) Be familiar with organizing construction supervision bidding, including preparing construction supervision bidding announcement, prequalification document, bidding document, bid opening, bid evaluation and bid determination;

(5) Be able to organize the bidding of goods for construction projects, including the preparation of goods bidding announcement, prequalification documents, bidding documents, contract terms, bid opening, bid evaluation and bid determination;

(6) Be able to organize construction bidding, including preparation of construction bidding announcement, prequalification documents, bidding documents, contract terms, bid opening, bid

evaluation and bid determination;

(7) Learn to organize project bidding, including preparing bidding documents according to bidding strategies, delivering bidding documents and bidding;

(8) Be able to learn construction contract management and engineering claim.

2.2.2 Ability

(1) Be able to make engineering claims according to relevant national laws and regulations;

(2) Design and construction project bidding schedule;

(3) Have the ability to prepare construction bidding and bidding documents;

(4) Ability to organize construction engineering design, supervision and construction bidding.

2.2.3 Ideological and political objectives

(1) Cultivate the morality of honesty and trustworthiness, hard work and hard work;

(2) Cultivate good professional ethics and rigorous scientific attitude;

(3) Strong communication skills and good sense of teamwork.

3. Course Content and Requirements

Serial number	Teaching task	Course content and teaching requirements	Instructional design	Reference class hours
Project I: bidding basis	Overview of construction project bidding	(1) Knowledge content and requirements: ① Understand the concept, content and mode of project contracting ② Understand the concept and management system of construction market ③ Master the functions and operation procedures of the construction project trading center; Concept and basic principles of bidding activities (2) Skill content and requirements: ① Have the ability to use the basic principles of bidding activities to guide bidding work	(1) Teaching methods ① Teaching ✓ ② Combination of teaching and practice ✓ ③ Case analysis ✓ ④ Discussion ✓ ⑤ Practical training ⑥ Others: (2) Practice project **Project qualification management case	6
	<i>Bidding Law of the people's Republic of China</i>	(1) Knowledge content and requirements: ① Understand the basic provisions of the <i>Bidding Law of the people's Republic of China</i> ② Master the basic terms and applicable conditions of the <i>Bidding Law of the people's Republic of China</i> (2) Skill content and requirements: ① Have the working attitude and ability to abide by and respect laws in future work	(1) Teaching methods ① Teaching ✓ ② Combination of teaching and practice ✓ ③ Case analysis ✓ ④ Discussion ✓ ⑤ Practical training ⑥ Others: (2) Practice project **Project bidding cases	4
	Construction engineering design bidding	(1) Knowledge content and requirements: ① Understand the procedures and contents of construction	(1) Teaching methods ① Teaching ✓	4

<p>Project 2: design, supervision and goods bidding</p>		<p>project design bidding</p> <p>② Master the qualification examination procedures and contents of construction engineering design bidding</p> <p>③ Master the content and preparation of construction project design bidding documents</p> <p>(2) Skill content and requirements:</p> <p>① Have the ability to organize construction project design bidding</p>	<p>② Combination of teaching and practice ✓</p> <p>③ Case analysis ✓</p> <p>④ Discussion ✓</p> <p>⑤ Practical training</p> <p>⑥ Others:</p> <p>(2) Practice project</p> <p>**Engineering design bidding organization</p>	
<p>Construction project supervision bidding</p>		<p>(1) Knowledge content and requirements:</p> <p>① Understand the procedures and contents of construction project supervision bidding</p> <p>② Master the qualification examination procedures and contents of construction project supervision bidding</p> <p>③ Master the contents and preparation of bidding documents for construction project supervision</p> <p>(2) Skill content and requirements:</p> <p>① Have the ability to organize the bidding of construction project supervision.</p>	<p>(1) Teaching methods</p> <p>① Teaching ✓</p> <p>② Combination of teaching and practice ✓</p> <p>③ Case analysis ✓</p> <p>④ Discussion ✓</p> <p>⑤ Practical training</p> <p>⑥ Others:</p> <p>(2) Practice project</p> <p>**Project supervision bidding organization</p>	<p>6</p>
<p>Bidding for construction goods</p>		<p>(1) Knowledge content and requirements:</p> <p>① Understand the procedures and contents of construction project goods bidding</p> <p>② Master the qualification examination procedures and contents of construction project goods bidding</p> <p>③ Master the contents and preparation of bidding documents for construction project goods</p> <p>(2) Skill content and requirements:</p> <p>① Have the ability to organize the bidding of construction</p>	<p>(1) Teaching methods</p> <p>① Teaching ✓</p> <p>② Combination of teaching and practice ✓</p> <p>③ Case analysis ✓</p> <p>④ Discussion ✓</p> <p>⑤ Practical training</p> <p>⑥ Others:</p> <p>(2) Practice project</p> <p>**Project goods bidding organization</p>	<p>4</p>

		project goods.			
	Construction bidding process	(1) Knowledge content and requirements: ① Introduction to construction bidding of construction projects ② Master the construction bidding procedures of construction projects (2) Skill content and requirements: ① Have the ability to organize construction bidding of construction projects.	(1) Teaching method ① Teaching ✓ ② Combination of teaching and practice ✓ ③ Case analysis ✓ ④ Discussion ✓ ⑤ Training ✓ ⑥ Others: (2) Practice project **Project construction bidding organization	6	
Project 3: construction bidding and tendering	Preparation of documents related to construction bidding	(1) Knowledge content and requirements: ① Introduction to construction bidding of construction projects ② Master the construction bidding procedures of construction projects (2) Skill content and requirements: ① Have the ability to design the bidding procedures for construction projects	(1) Teaching methods ① Teaching ✓ ② Combination of teaching and practice ✓ ③ Case analysis ✓ ④ Discussion ✓ ⑤ Training ✓ ⑥ Others: (2) Practice project **Preparation of project construction bidding documents	4	
	Construction bidding	(1) Knowledge content and requirements: ① Understand the preparation contents of construction bidding announcement ② Master the contents and preparation methods of construction bidding documents (2) Skill content and requirements:	(1) Teaching methods ① Teaching ✓ ② Combination of teaching and practice ✓ ③ Case analysis ✓ ④ Discussion ✓ ⑤ Training ✓	8	

		<p>① Have the ability to prepare construction bidding announcement and construction bidding documents</p> <p>(1) Knowledge content and requirements: ① Understand the contents of project bidding decision ② Understand the basic strategies and skills to be adopted in bidding ③ Master the procedures of construction project bidding, the composition and preparation methods of construction project bidding quotation ④ Master the contents of bidding documents for construction projects and the preparation steps of bidding documents (2) Skill content and requirements: ① Have the ability to make project bidding decision and construction project bidding quotation.</p>	<p>⑥ Others (2) Practice project **Preparation of commercial bid documents for project construction bidding</p> <p>(1) Teaching methods ① Teaching ✓ ② Combination of teaching and practice ✓ ③ Case analysis ✓ ④ Discussion ✓ ⑤ Training ✓ ⑥ Others: (2) Practice project **Organization of project construction bid evaluation</p>	8
<p>Project 4: FIDIC construction contract management</p>	<p>FIDIC basic knowledge of construction project contract management</p>	<p>(1) Knowledge content and requirements: ① Understand the legal basis of FIDIC construction project contract ② Master the rights and obligations of both parties of FIDIC construction project contract. (2) Skill content and requirements: ① Have the ability to understand the legal basis of FIDIC construction project contract and the rights and obligations of both parties.</p>	<p>(1) Teaching methods ① Teaching ✓ ② Combination of teaching and practice ✓ ③ Case analysis ✓ ④ Discussion ✓ ⑤ Training ✓ ⑥ Others: (2) Practice project **Content analysis of engineering construction contract</p>	4

<p>FIDIC construction project contract provisions</p>	<p>(1) Knowledge content and requirements: ① Understand the provisions of FIDIC construction project contract ② Master the basic procedures and problems needing attention in the signing process of FIDIC construction project contract. (2) Skill content and requirements: ① Have the ability to interpret and sign FIDIC construction project contracts.</p>	<p>(1) Teaching methods ① Teaching ✓ ② Combination of teaching and practice ✓ ③ Case analysis ✓ ④ Discussion ✓ ⑤ Training ✓ ⑥ Others: (2) Practice project **Analysis of engineering construction contract provisions</p>	<p>4</p>
<p>FIDIC construction contract conditions and construction claims</p>	<p>(1) Knowledge content and requirements: ① Understand FIDIC construction contract conditions ② Master the content of construction claim of FIDIC construction project ③ Master the calculation method of construction claim of FIDIC construction project. (2) Skill content and requirements: ① Have the ability to make construction claims for FIDIC construction projects.</p>	<p>(1) Teaching methods ① Teaching ✓ ② Combination of teaching and practice ✓ ③ Case analysis ✓ ④ Discussion ✓ ⑤ Training ✓ ⑥ Others: (2) Practice project **Engineering construction claim</p>	<p>10</p>
<p>Total class hours</p>	<p>68</p>		<p>68</p>

4.Implementation Recommendations

4.1 Suggestions on textbook selection and compilation

4.1.1 Textbook selection

The construction of teaching materials and related resources to be developed for this course is jointly completed by professional teachers in the school and enterprise personnel. The main resources developed include: teaching materials, courseware, handouts, lesson plans and course website.

4.1.2 Suggestions on the use of teaching materials and teaching reference materials

The national planning textbook for Vocational Education in the 13th five year plan is preferred as the textbook, and it is suggested to promote the practice oriented school-based textbook.

4.2 Teaching suggestions

(1) Take the construction project bidding workflow as the main line, take the work task as the guidance, and arrange the teaching by linking the major knowledge and skill points with the help of the real project of the enterprise;

(2) Adopt group teaching method to implement various tasks. When grouping, pay attention to matching different types of students into groups, and strive to cultivate students' team spirit;

(3) The platform for the participation of schools and enterprises in classroom teaching is established. The Internet plus evaluation and display of student learning outcomes are used to bring business experts into the teaching platform, and schools and enterprises to cultivate talents together;

(4) Integrate the relevant contents required by the national vocational qualification examination such as the tenderer into the course teaching content.

4.3 Teaching assessment and evaluation suggestions

To implement the process assessment, we should comprehensively assess the students' usual classroom participation, homework completion, especially their performance in practical teaching, record the results, and increase the proportion of daily assessment. So that examination is not only a means to test the learning effect, but also an integral part of students' relearning and training.

Specific assessment and evaluation suggestions are as follows:

Score: final assessment score = 70% of usual assessment + 30% of final assessment;

Usual assessment results = learning attitude and attendance (10%) + classroom performance (30%) + after-school homework and training results (30%);

Final examination (30%): mainly refers to the results of the final in class test or final examination.

Learning attitude and attendance (10%): flexible attendance method shall be adopted and recorded in the teacher's attendance sheet;

Classroom performance (30%): classroom interactive answer, initiative of speech and answer quality;

After class homework and training results (30%): whether the homework and training assigned at ordinary times can be completed independently, on time and with high quality.

4.4 Development and utilization of curriculum resources

(1) Pay attention to the development and application of course training instructions and training materials.

(2) Pay attention to the development and utilization of curriculum resources and modern teaching resources, which are conducive to creating vivid working situations, stimulating students' interest in learning and promoting students' understanding and mastery of knowledge. At the same time, it is suggested to strengthen the development of curriculum resources, establish the database of multimedia curriculum resources, and strive to realize the sharing of Cross School multimedia resources, so as to improve the utilization efficiency of curriculum resources.

(3) Actively develop and make use of network curriculum resources, make full use of network information resources such as e-books, e-journals, databases, digital libraries, educational websites and electronic forums, and change teaching from single media to multiple media; Teaching activities change from one-way transmission of information to two-way exchange; Students' individual learning changes to cooperative learning. At the same time, we should actively create conditions to build a distance teaching platform and expand the interactive space of curriculum resources.

(4) Industry university cooperation develops experimental training course resources, makes full use of typical enterprise resources in the industry, strengthens industry university cooperation, establishes practice and training base, and alternates practice, work and study, so as to meet students' practice and training needs and create employment opportunities for students.

(5) Establish the specialty and open the training center to enable it to have the functions of on-site teaching, experimental training and vocational skill certification, realize the integration of teaching and training, teaching and training, and teaching and certification, and meet the requirements of students' comprehensive vocational ability training.

4.5 Suggestions on allocation of teaching conditions

(1) Pay attention to the construction of situational construction project bidding training environment, including the application of hardware scene environment and relevant bidding case base.

(2) Pay attention to the development and utilization of curriculum resources and modern teaching resources, actively develop and utilize network curriculum resources, stimulate students' interest in learning, make students' learning no longer limited to the classroom, and promote students' understanding and mastery of knowledge.

(3) Industry university cooperation develops training course resources, makes full use of typical enterprise resources in the industry, strengthens industry university cooperation, establishes practice and training base, and alternates practice with work and study, so as to meet students' practice and training needs and create employment opportunities for students.

4.6 Other instructions

The standard middle school hours of this course are reference hours. The specific implementation can be adjusted according to the actual number of weeks of classes and holidays.