



# Research on the Ideological and Political Construction of the “Civil Engineering Materials” Course Under the Background of First-Class Undergraduate Course Construction

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**Abstract.** How to research the construction of “Civil Engineering Materials Course Ideology and Politics” was discussed in this paper’s context of the structure of first-class undergraduate courses. Given the problems in the ideological and political construction of the “Civil Engineering Materials” course, this paper proposes corresponding solutions. The methods were as follows: it is necessary to strengthen the training to improve teachers’ ideological and political levels. A sharing platform built can share ideological and political results; establishing an assessment mechanism was to encourage and encourage teachers to carry out curriculum thinking. Politics. Adhere to the “student-centred” teaching concept, and teachers innovated the teaching methods by combining various teaching modes. To improve the ideological and political construction of the “Civil Engineering Materials” course, teachers must change the assessment method, improve the evaluation mechanism, and at the same time add the ideological and political assessment to the final exam and provide a reference for other professional courses.

**Keywords:** First-class undergraduate · Civil engineering materials · Curriculum ideology and politics · Curriculum construction

## 1 Introduction

General Secretary Xi Jinping pointed out: “To do a good job of ideological and political work in colleges and universities, we must make good use of the channel of classroom teaching at the National Symposium on Ideological and Political Work in Colleges and Universities” [1]. The ideological and political theory course must improve, enhance the affinity and pertinence of ideological and political education, and meet students’ growth and development expectations. Political theory courses go in the same direction, forming a synergistic effect [2]. The “course ideology and politics” that has emerged in recent years requires various professional courses to take the teaching concept of “cultivating morality and cultivating people”. With multi-party collaboration, curriculum

**Table 1.** The First-class course features

Aspects	Characteristics
High level	Key knowledge, difficult knowledge, new field and new standards;
Innovation	Teaching and assessment methods, course ideology and politics;
Challenging	Break the usual, different, diversity;

and ideological and political systems are in the same direction, a complete and all-round education pattern [3].

The Ministry of Education's first-class undergraduate documents is the "Implementation Opinions of the Ministry of Education on the Construction of First-Class Undergraduate Courses" (Jiao Gao [2019] No. 8) [4] and the "General Office of the Ministry of Education on the implementation of online and offline hybrid, social practice, and national first-class undergraduate programs in 2019" The spirit of the document "Notice of Course Recognition" (Jiaogao Office Letter (2019) No. 44). The nature of these documents helps dig deeper into the ideological and political education elements contained in various courses. And to insist on taking morality and cultivating people is the fundamental task of college teaching [5]. Socialist builders and successors are cultivated with the development of "morality, intelligence, physique, beauty and labour. In this context, the curriculum reform of colleges and universities is also facing huge challenges [6]. In the context of first-class curriculum construction, "Civil Engineering Materials" is one of the main professional courses of civil engineering, and ideological and political construction is essential. Every course requires high-quality construction. The first-class courses are high-quality courses, that is, "golden courses" [7]. The characteristics of first-class courses are shown in Table 1.

As seen in Table 1, the construction of a first-class curriculum should focus on the following aspects: First, the content should reflect the "one degree of gender", that is, high-level, innovative and challenging [8]. Secondly, in terms of the methods and methods used in teaching, breaking the routine, pioneering and innovating not only must adapt to the development of the times but also take into account the physical and mental feelings of students. Then there is the standard, which should reflect the distinctiveness of the course and develop in a diversified way, not sticking to one pattern, and not one school or one class [9]. Based on the current new economic background and my country's primary development strategy needs, there is an urgent need for new engineering talents to enhance my country's competitive advantage in the international market. Training students to grasp the correct political direction and patriotism. Therefore, under first-class courses and courses on ideological and political construction in colleges and universities, this article takes the course "Civil Engineering Materials" as an example to explore the problems existing in the course ideological and political construction process and be problem-oriented. Fully explore the ideological and political elements of the course, not only to improve the professional quality of students but also to achieve the effect of value guidance of students.

**Table 2.** The problems

Aspects	Problems
Teachers	(1) Outdated teaching model (2) Understanding deviation (3) Lack of training (4) Separation of assessment and evaluation
Students	(1) Separation of assessment and evaluation (2) Lacks interest in ideological and political content (3) Less practical experience

## 2 Problems Existing in Ideological and Political Construction

The reasons leading to the failure of curriculum ideology and politics mainly come from two aspects of the investigation, as shown in Table 2. They leads to the delay in the ideological and political construction of civil engineering materials courses.

- (1) Teachers. A good director is equivalent to a “helmsman”. The direction is correct, and the quality is not too bad. As the classroom director, the teacher directly affects a series of effects brought by the ideological and political education of the curriculum. For a long time, the ideological and political courses set up by many colleges and universities and the professional courses of civil engineering are in a dual-track operation state. Teachers often ignore the value of guidance for students. The first is the outdated teaching mode of teachers, who are unwilling to innovate traditional teaching methods. Due to deviations in their understanding, the effect of curriculum ideological and political construction is not entirely satisfactory. Second, there is a lack of learning and training mechanisms. Some domestic colleges and universities’ romantic and political reform has achieved specific results but has not been fully popularized. Finally, the learning effect is separated from the assessment and evaluation mechanism, the ideological and political learning effect and application of teachers’ courses are almost ignored, and there is no feedback. They have not incorporated the teaching ability and level of curriculum ideology and politics into the evaluation indicators for teachers from the perspective of supervision and management.
- (2) Students. Due to the long-term ideological and political education model and the teaching model of professional courses, the sudden imposition of rigid sets has led to low interest in students’ ideological and political content. At the same time, students will acquire professional skills and certificates in the learning process. Students’ lack of awareness of ideological and political education will also lead to teachers’ burnout in teaching ideological and political education courses. Second, the teaching method is single. Due to the single teaching form and little practical experience of students, students’ understanding of ideological and political elements only stays at the theoretical level. For example, when teaching students how to measure the workability of freshly mixed concrete, they would say that workers on the construction site changed the mix ratio of concrete for rapid construction

and secondary water addition. Durability declines, and it is directly knocked down and rebuilt in severe cases. Finally, there is a lack of evaluation and feedback mechanisms for the absorption effect of ideological and political content. The existing evaluation mechanism does not consider the degree of ideological and political absorption of students.

### 3 Methods of Ideological and Political Construction

According to the current ideological and political problems of civil engineering materials courses, the following solutions are proposed:

- (1) The training of teachers, the engineers who shape the human soul. Schools should strengthen the training of teachers and improve teachers' "moral awareness" and "moral ability". First, senior professors teach the training teachers and the new type of teaching by deeds and deeds. The National Conference on Ideological and Political Work spirit was in Colleges and Universities. The second is to excavate the ideological and political elements in civil engineering, guided by excellent ideological and political teaching examples; the second is to carry out through expert guidance and symposiums, allowing teachers to discuss and exchange on the spot and enhance mutual understanding.
- (2) The platform is shared to gain the effect. The establishment of the curriculum ideological and political sharing platform makes the curriculum ideological and political construction no longer "fighting alone" but "going hand in hand" with multiple forces. Civil engineering materials is a course that closely combines theory and practice. A combination of theoretical teaching and practical links is adopted in the learning process. For example, the experimental link is divided into three parts: basic experiment, comprehensive experiment and design experiment. Through this platform, various resources can be shared to improve the efficiency of curriculum ideological and political construction.
- (3) The assessment and evaluation system makes the ideological and political construction of the course come naturally. The implementation level is included in the evaluation indicators of teachers. Through grading quantification and class listening, urge and supervise teachers to implement curriculum ideology and politics, give teachers timely corrections, and provide teachers with more input and practical work. Support or reward in other aspects.
- (4) Teaching methods let the course's ideological and political construction return to its roots. The first is the teaching goal and incorporated into the teaching goal. To cultivate students' ability to study and independently study the basic professional theory in the field of materials, apply basic theoretical knowledge to solve practical application problems and apply them to practice, guide production and scientific experiments. Students can understand and evaluate the composition, structure, and environmental conditions of civil engineering materials on the material properties, the application of civil engineering materials and the engineering practice of complex engineering problems on environmental and social sustainability. Development impacts, damage and hidden dangers to humans and the environment. The second

is the teaching method. It not only makes full use of national-level quality courses, major online courses, and other resources to encourage students to study independently. At the same time, teachers combine ideological and political skills to explain necessary knowledge and answer questions or use the “exploratory group discussion method” to set topics. For example, in the introduction part, through various ancient and modern buildings, students can feel the beauty of architectural art accumulated over the years while laying the foundation of the course and experience the glorious and long history and culture of ancient my country. However, improper use of materials will cause various diseases, which requires students to have a solid professional foundation and shoulder the responsibility as civil engineers. Therefore, national self-confidence and responsibility can integrate into the “Civil Engineering Materials” course construction through this case teaching method. The last is to improve the evaluation mechanism. The traditional evaluation method of civil engineering materials is: 20% average grades + 20% experimental grades + 60% final grades, of which the middle grades include attendance and homework, the experimental qualities include classroom performance and testing reports, and the final steps are examined through different types of questions. The student’s mastery of theoretical and practical knowledge. This evaluation method has a vital reference role in clarifying whether the teaching objectives of the knowledge and skill dimensions are achieved. But it cannot evaluate the impact of the teaching process, teaching methods and values of the course on the teaching objectives. Therefore, by combining group discussions and case explanations in the teaching process for quantification and considering students’ understanding and application of ideological and political matters as a reference, the proportion of ordinary grades will be increased to 30%, and the final grade per cent will reduce to 50%.

## 4 Conclusions

This paper discusses the problems existing in courses’ ideological and political structure and proposes solutions.

- (1) The problems existing in the ideological and political construction of the course include teachers, outdated teaching methods, inadequate understanding of the ideological and political courses of the course, few training opportunities, a lack of assessment and evaluation mechanisms and incentive mechanisms, resulting in the low level of ideological and political construction of civil engineering materials courses. The students are accustomed to existing learning methods, prefer professional courses, lack practical experience and the course assessment mechanism is not comprehensive.
- (2) Methods for teachers have the following: strengthen teacher training, improve the level of teachers’ ideological and political business, establish a sharing platform to share ideological and political results, and establish an assessment mechanism to encourage and promote teachers’ course ideology and politics. Adhere to Taking the “student-centred” teaching concept to stimulate students’ interest in learning,

clarifying teaching objectives and implementing ideological and political education goals; innovating teaching methods, combining various teaching modes, and improving the evaluation mechanism.

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