

# The Exploration of Integrating Ideological and Political Education into Electrical and Electronic Course Teaching



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**Abstracts:** Integrating ideological and political education into teaching in colleges and universities can stimulate students' interest in learning, improve the quality of course teaching, and enhance their sense of social responsibility and professional ethics. This paper explores the effectiveness and feasibility of ideological and political theory integration into the teaching of electrical and electronic courses and emphasizes the importance of combining ideological and political education with professional courses. Through optimizing the curriculum design, innovative teaching methods, strengthening teacher training, using multimedia resources, and establishing evaluation and feedback mechanisms and other strategies, it can effectively improve the ideological and political quality of students and professional skills, and cultivate high-quality technical talents with both integrity and competence. Continuously deepening the reform of the ideological and political theory of the curriculum will strengthen the cross-fertilization of disciplines and the innovative education model, promote the overall development of students, and cultivate qualified talents for the country and society in the new era.

**Keywords:** ideological and political education; electrical and electronic courses; ideological education; comprehensive development of students; professional ethics

## Introduction

As one of the basic courses of science and engineering majors, the electrician-electronics course is the core content of cultivating electrical engineers, electronic engineers, and other related technical talents, and plays a vital role in cultivating students' practical ability, innovative spirit, and technical literacy. With the rapid development of science and technology and the increasing demand for technical talents in society, it is particularly important to strengthen the teaching quality of electrical and electronic courses and enhance the professional ability of students. Ideological and political education in the cultivation of talents in colleges and universities is an important way to help students establish a correct worldview, outlook on life, and

values, and an important means to cultivate students' sense of social responsibility, moral quality, and patriotic spirit. The integration of civic and political education into the teaching of electrical and electronic courses helps to cultivate composite talents with both high-level professional skills and firm ideological and political beliefs and provides strong talent support for the sustainable development of the country and society.

## 1. Current Electrical and Electronic Curriculum and Teaching Mode

The current electrical and electronic curricula and teaching methods place a strong emphasis on developing students' technical application skills and professional skills. Course material typically covers fundamental concepts like circuit analysis, electronic component use, digital circuit design, automatic control principles, etc. The majority of these courses

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use conventional theoretical teaching strategies. The majority of these courses follow the conventional approach of combining theoretical instruction with hands-on learning, emphasizing the development of students' technical abilities via lectures, experiments, and project work.

In this manner, the primary focus of the courses is on making sure that students have a firm grasp of fundamental electrical and electronic theories as well as practical abilities; this approach frequently overlooks the natural connection of professional teaching and ideological education. The instruction of technical information is the primary goal of electrical and electronic courses, whereas the development of students' political and ideological qualities is not well-planned or organized. There are few efficient ways and strategies for integrating political and ideological education into the course material, thus teachers typically concentrate on outlining technical concepts and operational requirements. This results in the fact that during the learning process, students tend to ignore the crucial components of professional learning, such as humanistic care, social responsibility, and professional ethics, in favor of restricting the course material to their skill level. Furthermore, there is little interaction in the classroom and a low level of student participation due to the relatively single-minded nature of the current teaching approach, which is dominated by lectures from the teacher. These factors make it difficult for the content of civic and political education to be effectively absorbed by the students. It can be seen that the current curriculum and teaching mode of electrical and electronic courses have certain advantages in the cultivation of professional skills, but there is still much room for improvement in the integration and implementation of civic and political education. Through the innovation of teaching content, teaching methods, and evaluation systems, we need to promote the organic combination of civic and political education and professional education and realize the cultivation of students' overall quality.

## **2. The Significance of Ideological and Political Theory Integrated into Electrical and Electronic Courses**

### **2.1 Promote the overall development of students and improve their comprehensive quality**

The incorporation of classroom politics into electrical and electronic courses is crucial for fostering students' holistic growth and enhancing their overall quality. These days, having accurate beliefs, being socially responsible, and having good professional ethics are just as important for technical talents in the modern period as mastering professional skills. A correct worldview, outlook on life, and values can be established by incorporating civics and politics into electrical and electronic courses. This can also help students understand the connection between social progress and personal development and foster a sense of social responsibility and patriotism. (He, et al., 2024). For example, combining practical cases in teaching, exploring ethical issues in electric power engineering, and analyzing the impact of scientific and technological innovation on social development can guide students to think about the social consequences of technology application and enhance their sense of social responsibility. Through such a practice of civic and political, students can not only master the specialized knowledge of electrical engineering and electronics but also develop critical thinking, and enhance problem-solving ability and teamwork spirit. In this way, students can become highly qualified and comprehensive talents with both moral integrity and ability, adapting to the needs of the society while possessing solid professionalism, to make greater contributions to the national scientific and technological innovation and social progress.

### **2.2 Enhance the educational effectiveness of the course, and improve teaching quality**

Civic and political education in the electrical and electronic courses can not only enhance the ideological and political quality of students but also significantly enhance the educational effectiveness of the course, and improve the overall quality of teaching. Traditional electrical and electronic course teaching is often limited to theoretical knowledge and operational skills, students in the learning process is easy to fall into a boring, mechanical state. The integration of civic and political education, through the introduction of content with ideological depth and practical significance, such as scientific and technological ethics, safety responsibility, professional ethics, etc., can make the course content more vivid and interesting, stimulate students' learning interest and initiative, thus enhancing the

attractiveness of classroom teaching (Yang & Wang, 2024). The modernization of curriculum and the development of novel teaching strategies might result from the integration of civic and political education. For instance, students can readily embrace ideological and political education in the process of problem analysis and solution when practical instances are combined with discussion-based instruction. This method develops students' critical thinking and moral judgment in addition to helping them comprehend and grasp professional knowledge. Simultaneously, adding civic and political components to the curriculum might encourage educators to consider the learning goals, strengthen the significance and purpose of their instruction, and ultimately raise the standard of instruction. Through the organic combination of civic and political education and Electrical and Electronic Courses, the learning effect of students can be effectively improved, so that they have a stronger sense of social responsibility and moral consciousness while their professional skills are improved, which provides a powerful guarantee for the cultivation of high-quality talents in line with the requirements of the new era. This is not only conducive to the overall development of individual students but also provides a solid talent base for the progress of the country and society.

### **2.3 Serve the needs of national development and cultivate qualified talents**

Integrating classroom ideology into the electrical and electronic courses is an effective way to serve the national development needs and cultivate qualified talents. In the pursuit of new quality productivity, China's increasing demand for high-quality technical personnel, not only requires them to have solid professional skills but also to have the right values, a strong sense of social responsibility, and good professional ethics. By integrating civic and political education into the electrical and electronic courses, students can be guided to pay attention to the national development strategies, such as "Manufacturing Power", "Digital China", "Intelligent Manufacturing", etc., to enhance their understanding and awareness of the national needs, to enhance their understanding and awareness of the national needs, and thus enhance their understanding and awareness of the national needs. This will enhance their understanding and awareness

of national needs, and thus stimulate their sense of mission and responsibility to contribute to national development and national rejuvenation (He, et al., 2024). This model of course ideology encourages students to combine their personal career development with the needs of the country and society and to cultivate their patriotic sentiment and sense of serving the society. For example, by discussing how to use electrical and electronic technology to solve social problems such as environmental pollution and energy shortage, students' sense of social responsibility can be enhanced, so that they can pay more attention to the combination of social benefits and technological innovation in their future careers. In addition, civic and political can also help students establish correct concepts of professional ethics, such as honesty and law-abiding, courage, and excellence, laying the foundation for them to become qualified personnel with both moral and intellectual ability. Through the effective implementation of the course Civics, the electrical and electronic courses can not only cultivate technical talents with excellent professional ability but also cultivate socialist builders and successors with ideals, beliefs, and morals, to provide continuous talent support for the scientific and technological progress and social development of the country.

## **3. Strategies for the Integration of Ideological and Political Education in Electrical and Electronic Courses**

### **3.1 Optimize course design and integrate the elements of ideology and politics**

Optimizing the curriculum design and integrating the Civic-Political elements into the electrical and electronic courses is one of the key strategies to achieve the goal of Civic-Political education in the courses. First of all, the specific objectives and requirements of ideological and political education can be put forward in the course outline and teaching plan, and ideological and political education can be organically combined with the professional knowledge of electricians and electronics. For example, when teaching power transmission and circuit design, content related to national energy policy and environmental protection regulations can be introduced, so that students can pay attention to national energy security and

environmental protection issues while learning specialized technology (Wei & Xu, 2024). This kind of curriculum design not only makes the teaching content richer and more diversified but also provides vivid cases and situations for civic and political education. In the selection of teaching materials and the choice of classroom materials, priority should be given to content that can reflect socialist core values, patriotism, and social responsibility. For example, introducing the advanced stories of outstanding engineers in the electric power industry or telling about the cooperation and innovative spirit of the engineering team in major scientific and technological projects can inspire students' patriotism and professional pride. At the same time, students can deepen their understanding and recognition of the content of civic and political education in interaction by designing discussion classes and practical activities on the topic of civic and political education. Optimizing the curriculum design and naturally integrating the elements of ideology and politics into the electrical and electronic courses, can enable students to subconsciously accept ideological and political education in the process of learning professional knowledge and improve their ideological and political quality and comprehensive ability. This not only helps to cultivate students' professional skills but also shapes their sense of social responsibility and moral concepts, laying the foundation for cultivating both moral and technical talents.

### **3.2 Innovative teaching methods, enhance classroom interaction**

The integration of civic and political in electrical and electronic courses requires innovative teaching methods to enhance classroom interaction to enhance the effect of civic and political. Traditional didactic teaching methods often lead to a lack of classroom interaction and student participation, which affects the effectiveness of civic and political education. Therefore, the classroom can be made more vivid, interesting, and infectious by introducing case teaching, project-driven teaching, discussion-based teaching, and other methods (Ruan et al., 2024). For example, when explaining electric power safety and maintenance, students can be guided to discuss the reasons and lessons behind electric power accidents through real case studies to stimulate their thinking about safety responsibilities

and professional ethics. Project-driven teaching is another effective and innovative method, which can be combined with real engineering projects or hot issues in society to design comprehensive teaching projects and require students to consider social benefits, environmental protection, and other elements of civics and politics in the process of project completion. For example, designing an energy-saving circuit project allows students to realize the importance of energy-saving and environmental protection while improving their technical skills. Such a teaching method can not only deepen students' understanding of professional knowledge but also cultivate their teamwork spirit and sense of social responsibility. Through innovative teaching methods, classroom interactivity is enhanced, students' participation and motivation are increased, and it can make a seamless connection between ideological education and professional courses. In the active classroom atmosphere, students are more likely to accept and internalize the content of civic and political education, thus truly realizing the organic combination of moral and intellectual education, and providing strong support for the cultivation of all-round development of technical talents.

### **3.3 Strengthen teachers' training in civics and politics and improve teaching level**

Strengthening teachers' training in ideology and politics is a key step in effectively integrating ideology and politics education into electrical and electronic courses. As the leader of classroom teaching, teachers' ideological awareness and teaching ability directly affect the quality and effect of course ideology. For this reason, schools should organize regular training on ideology and politics for electrical and electronic teachers to raise their awareness of the importance of ideology and politics education, so that they can integrate the elements of ideology and politics more consciously and effectively in their daily teaching. The training should include the study of ideological and political theories, the interpretation of educational policies, and the practical case analysis of curriculum civics, etc., to help teachers master the specific methods and skills of how to organically combine civic and political education with professional teaching (Zhang, 2024). Through the training, teachers can learn rich resources of civic and political education and

innovative teaching methods, such as how to utilize hot social issues, industry development trends, and moral and ethical events as an entry point and turn them into teaching cases, to make the classroom more vivid and interesting. In addition, the training can also promote communication and cooperation among teachers, share their experiences and successful practices in civic and political of the curriculum, and form a favorable atmosphere of mutual learning and common progress. Improving teachers' level of teaching civics and politics not only enhances their ability to penetrate civics and politics in the classroom but also enables them to better assume the responsibility of cultivating students' ideological and political qualities. Through the double enhancement of ideological and political quality and specialized knowledge teaching, teachers can more effectively help students establish correct values and a sense of social responsibility, and provide a guarantee for the cultivation of both moral and technical talents.

### **3.4 Utilize multimedia resources to enrich the teaching form**

The use of multimedia resources to enrich the form of teaching is an effective strategy for integrating civic and political into electrical and electronic courses. The development of modern educational technology has introduced more vivid teaching tools and means for the classroom, which can make civic and political education more interactive and attractive. By playing relevant documentaries, video clips, or animations, students can visualize advanced stories in the electric power industry, successful cases of major scientific and technological projects, as well as practical situations involving professional ethics, to understand the connotations of the civic and political education more profoundly (Wang, 2023). This visual and situational teaching method can stimulate students' emotional resonance, making it easier for them to accept and internalize the content of civic and political education. Using virtual reality (VR) and augmented reality (AR) technology, it can simulate the real electrician and electronic working environment or historical events, so that students can experience and think immersively. This not only enhances students' interest in learning but also strengthens their understanding of professional ethics, safety responsibilities, and social missions. Through

the application of these multimedia tools, civic and political is no longer just a theoretical lecture, but becomes an experiential and participatory learning process, so that the elements of civic and political are subtly rooted in students' hearts. At the same time, the use of multimedia resources can also break the time and space limitations of the traditional classroom, and by utilizing online learning platforms and resource libraries, students can study and think at any time and any place to deepen their understanding of the content of civic and political education. This flexible learning method helps to improve the breadth and depth of civic and political education, enhances the teaching effect of the electrical and electronic courses, and provides strong support for the cultivation of comprehensively developed technical talents.

### **3.5 Establish evaluation and feedback mechanisms to ensure the teaching effect**

The establishment of an evaluation and feedback mechanism is an important means to ensure the teaching effect of civic and political education in electrical and electronic courses. Effective evaluation and feedback mechanisms can help teachers understand the actual effect of civic and political in the teaching process, and accordingly adjust and optimize the teaching strategy. First of all, schools can formulate scientific and reasonable evaluation standards and include students' ideological and political quality, values, and sense of social responsibility in the course evaluation system (Yao & Cao, 2023). The effectiveness of students' ideological and political education is comprehensively evaluated through various forms such as final exams, classroom discussions, post-course assignments, and project reports. Secondly, student questionnaires, classroom observation, and teacher self-assessment can be introduced to collect students' understanding, feelings, and feedback on the course's civics content. This two-way interactive feedback mechanism helps teachers to understand students' acceptance and recognition of the content of civic and political education, to better adjust the teaching content and methods, and to enhance the relevance and effectiveness of civic and political education. Finally, schools should also organize regular teaching seminars for teachers to share successful experiences and problems in the practice of civic and political education, to promote exchanges and cooperation

among teachers, and to jointly improve the overall level of civic and political education in the curriculum. Through the establishment of an evaluation and feedback mechanism, teachers can identify and solve the problems in civic and political education promptly, continuously improve their teaching methods, and ensure the in-depth integration of civic and political education with the professional curriculum. This not only improves the ideological and political quality of students, but also more effectively cultivates high-quality technical talents with a sense of social responsibility and professional ethics, and truly realizes the educational goal of promoting moral education.

### Conclusion

By integrating classroom ideology and politics into the teaching of electrical and electronic courses, it can effectively improve students' ideological and political quality and professional skills, and realize the organic combination of moral and intellectual education. Through a variety of teaching reform measures, colleges and universities can not only enrich the course content and stimulate students' interest in learning but also cultivate students' sense of social responsibility, professional ethics, and patriotism, to provide society with high-quality technical talents with both moral and intellectual qualities. Looking ahead, further deepening the reform of curriculum ideology is an inevitable requirement to promote the overall development of students. We should strengthen the cross-fertilization of disciplines and explore more innovative modes of civic and political education; continue to improve the civic and political education ability of teachers and ensure the organic penetration of civic and political elements in professional teaching; and create a diversified and interactive learning environment with the help of advanced education technology. In addition, a sound long-term mechanism should be established to promote the normalization of civic and political education and to cultivate more new-age technical talents with firm beliefs and noble character for the country.

### Conflict of Interest

The authors declares that they have no conflicts of interest to this work.

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### References

- He, Y., Peng, X., & Zhang, L. et al. (2024). Exploration and practice of civics and politics in electrical and electronic technology laboratory course. *China Education Technology Equipment*, 2024(14), 128–131.
- Yang, D., & Wang, Z. (2024). Research on the teaching reform of electricity and electronics technology based on the background of curriculum civics and politics. *Mold Manufacturing*, 24(07), 117–119.
- He, Z., Zhang, W., & Wang, J. (2024). Jinghua. design of civic and political in electrical and electronic technology course. *Modern Business Industry*, 45(09), 257–259.
- Wei, L., & Xu, R. et al. (2024). Exploration of civic and political construction of electrical and electronic technology course based on online teaching. *Journal of Guangxi Open University*, 35(02), 59–63.
- Ruan, X., Leng, X., & Sun, J. et al. (2024). Exploration of student-centered civic teaching in electricity and electronics technology. *Western Quality Education*, 10(02), 53–56.
- Zhang, B. (2024). The practice and research of course politics in electrical and electronic technology. *Modern Business Industry*, 45(03), 260–262.
- Wang, S. L. (2023). Exploration of the teaching and learning of electrician and electronic technology courses in secondary school under the background of “internet+” curriculum ideology and politics. *China New Communication*, 25(24), 146–148.
- Yao, Z. Y., & Cao, H. Q. (2023). Practice and exploration of civic teaching in specialized courses under the background of new engineering science--taking electricity and electronics technology course as an example. *Modern Business Industry*, 44(21), 205–207.

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