Exploration and Practice of Ideological and Political Work in Mathematics Curriculum for Engineering Graduate Students

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Abstract: The content of ideological and political education should be integrated into the professional courses of graduate students, so as to improve their learning interest and combine correct value guidance with professional knowledge teaching.

Keywords: Ideological and Political

I. MATHEMATICS CURRICULUM REFORM OBJECTIVES

Compared with the undergraduate course, the postgraduate course is more professional and practical, and the students also have a stronger sense of independence and mature and stable values and world outlook. If the content of ideological and political education can be organically integrated into the professional curriculum of postgraduates, the ideological and political education formed in the curriculum can break the traditional ideological and political education completely depends on the single form of theoretical teaching, that is to say, if we can combine theory with practice, combine correct value guidance with professional knowledge teaching, guide students to view and analyze problems correctly and rationally, and introduce ideological and political elements into practice, so that students can practice the ideological and political theory they have learned, they can deepen their understanding of the theory, and form correct values, political views, legal views and moral views.

As a public required course for engineering graduate students, mathematics course includes engineering mathematics, matrix theory, numerical analysis and mathematical statistics. It is an important foundation, tool and language for learning the following professional courses and future development. Based on the characteristics and logic of mathematics, many students cannot bear the tediousness of mathematical theorem proving and the variety of mathematical formulas and symbols, which makes the traditional mathematics classroom cannot play an effective learning effect. Therefore, the introduction of the ideological and political concept of the curriculum is also a reform of the mathematics classroom, mathematics curriculum teaching reform plays a very important role. The course of mathematics not only imparts basic knowledge of mathematics and basic concepts and theorems, but also excavates ideological and political elements in the course, deepens ideological and political education in the course of teaching, so as to realize all-round and all-round education. In teaching, on the premise of good theoretical knowledge, combining with the characteristics of mathematics as a subject, taking advantage of the situation and leading with it, the moral education elements contained in the mathematics curriculum are thoroughly dug out, and the traditional teaching which only focuses on professional knowledge is changed to stand on the height of morality and fostering people, carry on the education guidance to the student, improve the student study the consciousness and the initiative.

II. MATHEMATICS CURRICULUM REFORM GOAL

The teaching goal of the traditional mathematics course mostly is to teach the students to understand and master the related mathematics theory knowledge, and to analyze and apply the data with the related mathematics software, the ideological and political education hidden behind the content is not fully reflected. Under the social background of exploring the ideological and political reform of the curriculum, it is necessary to re-establish the training plan and goal of statistics in the light of the basic task of establishing moral and cultivating people, so as to clarify the important position of ideological and political education in the teaching of mathematics. To improve students’sense of social responsibility and patriotism as the goal of the mathematics curriculum, to help students to build a team spirit of unity and cooperation, to train students to love their jobs, dedication and selfless dedication, and other positive and upward spirit, so that the learning of knowledge, the acquisition of ability and the shaping of life values can be realized in the teaching of mathematics.

III. MATHEMATICS CURRICULUM REFORM CONTENT

A. Improve the classroom teaching content.

The content of Engineering Graduate Mathematics Course is abstract and theoretical, but the ideological and political elements in classroom teaching cannot be copied mechanically. For example, in the teaching of dichotomies, fixed point iterations, and Newton’s method, the story of the Chinese mathematician Loo-keng Hua who popularized optimality in production was incorporated into the teaching, while paying tribute to the older generation of scientists, permeating students with positive values: The purpose of graduate study is to put what you have learned into practice and serve your country.

B. Ideological and political education in innovative practice

1. Integrating ideological and political elements with practical cases in the process of innovative practical training.
2. To cultivate students’ Team Spirit of unity, cooperation and selfless dedication in the process of innovation activities.
3. To cultivate the rigorous scientific spirit and unswerving research spirit of the postgraduates.
C. Information-based autonomous learning with ideological and political elements

The information-based teaching has realized the opening, freedom, equality and high efficiency which the traditional teaching is difficult to realize. The teaching team will take the application of mathematics in engineering as the core and students’ autonomous learning as the goal, and take the participation function of students into full consideration.

References