

# *Ideological and Political Case Design of Logistics System Engineering*

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**Abstract:** The objective of the course *Logistics Systems Engineering* is to enable students to master the basic principles and methods of systems engineering and their specific applications in logistics system optimization through the study of this course. Taking the specific teaching design of the chapter "*Introduction to Logistics System*" as an example, this paper shows how to organically integrate the ideological and political elements of the course into the explanation of knowledge, and cultivate students' systematic view and view of the overall situation while students master basic professional knowledge. At the same time, this paper also provides some reference and help for ideological and political teaching of logistics management courses in colleges and universities.

## **1. Introduction**

The ideological and political education of courses refers to a concept of comprehensive education in which various courses and ideological and political theory course move in the same direction and form synergy, and "foster virtue through education" is taken as the fundamental task of education. The concept requires adherence to the integration of explicit education and implicit education to tap into the resources of ideological and political education contained in other courses and teaching modes, so as to achieve education for all people, over the whole course, and in a comprehensive way<sup>[1]</sup>. The concept adheres to the penetration of ideological and political education in teaching, and embodies the idea of "studying with questions, and questioning in the study", so questions are taken as the orientation. The ideological and political education of the *Logistics Systems Engineering* course takes the cultivation of students' "ability that they think in a systematic, holistic, and comprehensive way" as the purpose, the systematic thinking as the drive, "current-event-hauling" case teaching as the characteristic, to analyze the present hot issues, with CDIO educational concept integrated, so as to cultivate students' ability to link theory with practice.

## **2. Overview of the Course**

*Logistics Systems Engineering* is one of the required specialized courses for the logistics engineering major at Guangzhou Maritime University. Guided by system thinking, this course uses the method of combining quality with quantity, to study the optimization of the logistics system. This course includes various links to the system such as analysis, planning, development, and management.

The learning content includes system, the concept of systems engineering, characteristics of system and systems engineering, modeling of logistics system, prediction of logistics system, evaluation of logistics system, decision making of logistics system, network planning of logistics system, etc. This course cultivates students' ability to analyze and solve problems from scientific and systematic perspectives, so as to avoid the decision-making of the logistics system from isolated and separated perspectives.

### 3. Approach of Ideological and Political Education of the Course

The excerpt of this typical case is "*Introduction to Logistics Systems Engineering*", whose teaching objective is to lecture on the definition of a system and the basic characteristics of the system, so as to guide students to understand the essence and connotation of system, hence cultivating students' systematic view and view of the overall situation.

By presenting ancient Chinese classical system thinking, and many cases of Chinese systems engineering, the lecture of this course cultivates students' cognition of ego culture, their ability to scientifically analyze problems, and their correct values and outlooks on life.

(1) When imparting knowledge, this lecture guides students to observe society with the thinking and methods of the system, and view problems from perspectives of the system and those of the overall situation.

(2) Through the examples of the system thinking and perspectives of ancient China, and Dujiangyan irrigation works, this lecture enables students to experience and appreciate the knowledge and strength of traditional Chinese culture, as well as cultivate the pride and cultural confidence of the Chinese nation, hence motivating students' enthusiasm for study.

(3) This lecture presents the forms and methods of systems engineering applications in China's major construction projects, in which, various organizational management techniques of systems engineering are used so that the parts and the whole are coordinated to achieve an optimal system.

(4) By questioning and discussing in class, this typical case improves students' ability to independently study, motivates their interest, and helps them to pay attention to and understand difficult knowledge<sup>[2]</sup>.

### 4. Teaching Design of Ideological and Political Education of the Course

#### 4.1 Design Steps of the Teaching Process

##### (1) Organization of Teaching

##### (2) Introduction of New Course

Through the case of the construction of Huoshenshan Hospital in Wuhan, the concepts of system and systems engineering are introduced.

##### (3) Teaching Content and Class Design

##### 1) Development of System Thinking and Concept of System

By lecturing on the definition of a system and the basic characteristics of the system, this course guides students to exemplify the system with the specific systems in life to understand the essence and connotation of the system, hence cultivating students' systematic view and view of the overall situation.

##### 2) Concept of Systems Engineering

By presenting ancient Chinese classic system thinking, and many cases of Chinese systems engineering, this course cultivates students' cognition of ego culture, their ability to scientifically analyze problems, and their correct values, and outlooks on life.

##### 3) System of Systems Science

4) **Logistics System**

5) **Logistics Systems Engineering**

(4) **Classroom discussion**

1) What are the specific basic characteristics of the system? Examples are given for description.

(5) **Assignment of Homework**

1) How to understand the relevant characteristics of the system, examples are given for description.

2) What characteristics are there in the logistics system? Why is a logistics system a typical large complex system?

4.2 Design Diagram for Ideological and Political Teaching [3, 4]

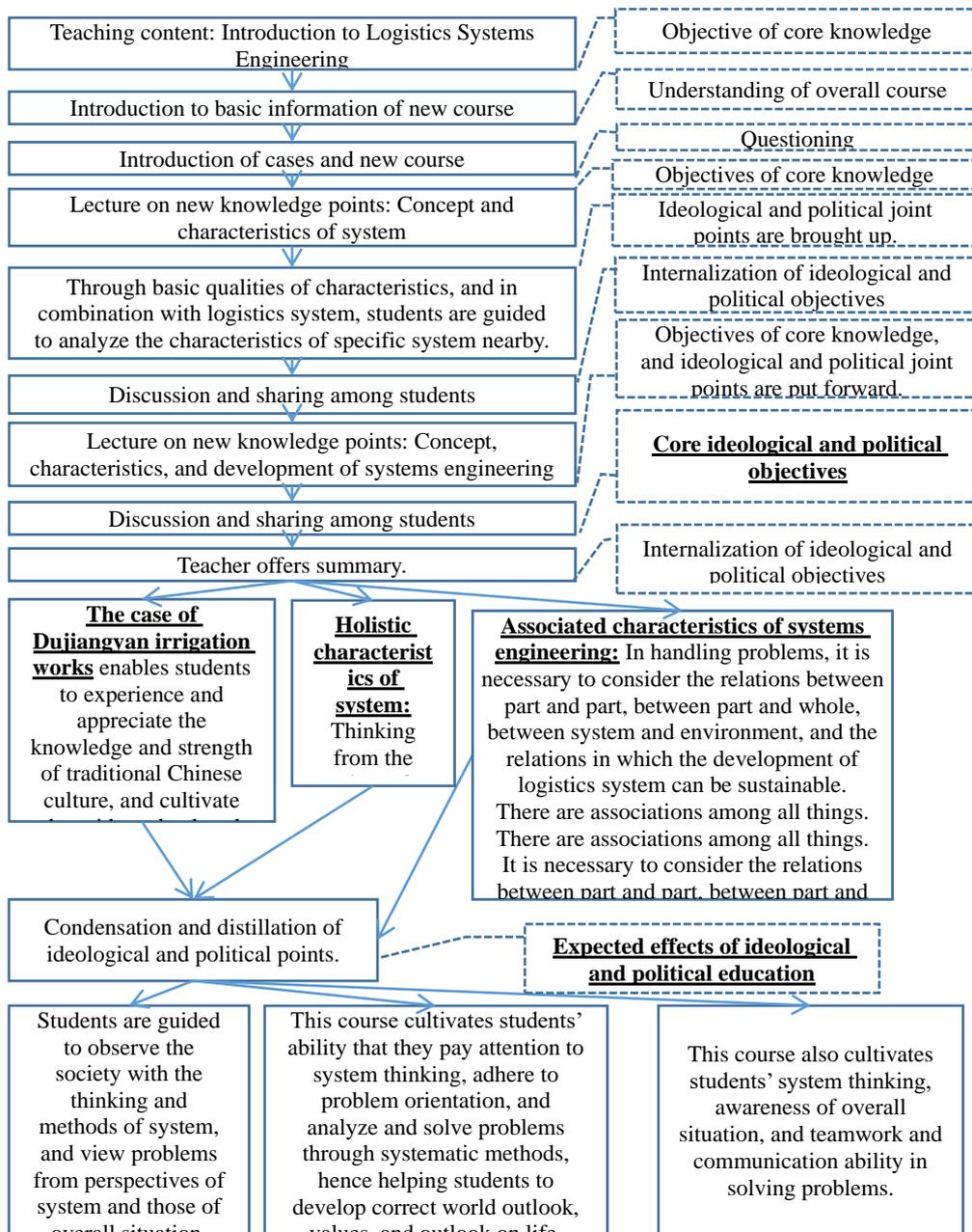


Figure 1: Route design of ideological and political education of the course

## 5. Teaching Effects of Ideological and Political Education of

Classroom discussion mobilized students' learning initiative and improved students' participation, so good effects have been received from teaching activities. Through the ideological and political education of this course, teachers not only impart professional knowledge to students, but also help students to develop correct values, enabling socialist core values to be internalized in mind, and externalized in action. Therefore, fully tapping into the ideological and political elements of the course is significant for comprehensively cultivating talents.

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