《城市经济管理模拟仿真》课程中英文简介

Modeling and simulation of urban economic management

课程代码： **Course Code:**

课程名称：城市经济管理模拟仿真 **Course Name:** Modeling and simulation of urban economic management

学时：32 **Periods：**32

学分：2 **Credits：**2

考核方式：考查 **Assessment：**Assignment

先修课程：计算机应用 **Preparatory Courses：**Computer application

《城市经济管理模拟仿真》是为城市管理专业学生而开设的课程。通过本课程的学习，使学生理解城市复杂系统建模与仿真过程的基本概念和原理及其在城市经济管理中的应用，掌握建模仿真这一基本科学研究方法，为后续专业课和毕业设计打下计算机分析的基础。本课程在讲解系统建模与仿真的概念内涵、基本理论、基本方法与技术的基础上，重点围绕基于NetLogo工具软件的城市经济管理问题的建模与仿真，重点对基于主体与系统动力学建模仿真方法的基本原理、应用步骤、实例、程序代码等进行了详细讲解。教学过程中，能够大幅度提高学生解决问题的能力，对学生的创新性研究具有重大的推动作用。实验课是本课程重要的教学环节，其目的是使学生应用NetLogo编程语言和建模平台，通过层层深入的实例掌握建模仿真技术的操作步骤，并且学会针对某一城市经济管理科学问题进行模型构建与仿真。

This course is designed for Urban management students. Through the study of this course, students can understand basic concepts and principles of urban complex system modeling and simulation, as well as its application in urban economic management, master the basic scientific research method of modeling and simulation to lay a solid foundation of computer analysis for following specialized courses and graduation design. Based on the introduction of key concepts, theories and techniques of system modeling and simulation, this course focuses on modeling and simulation of urban economic management with NetLogo software, through agent-based modeling and system dynamic modeling approaches while introducing their basic principles, application steps, examples and program codes. In the course of teaching, it can greatly improve students’ ability to solve problems, which plays a major role in promoting innovative research by students. Experiments are important part of this course, with the purpose of equipping students with NetLogo programing and modeling skills. Through in-depth examples, students can master simulation technique and solve scientific problems in urban economic management.