

Courses Intro

1) 【Course Title】 Quality Engineering

质量工程学

【Course Code】 70160023

【Credits】 3

【Credit Hours】 48

【Semester】 Fall

【Capacity】 50 Graduate Students

【Instructor】 WU Su 吴甦、WANG Kaibo 王凯波

【Course Description】

1. Introduction
2. Quality Function Deployment
3. Statistical Quality Control & Acceptance Sampling
4. Design of Experiments and Taguchi Method

2) 【Course Title】 Production Management

生产管理

【Course Code】 70160033

【Credits】 3

【Credit Hours】 48

【Semester】 Fall

【Capacity】 50 Graduate Students

【Instructor】 CHENG Ye 成晔、ZHANG Zhihai 张智海

【Course Description】

Contents: Introduction and Production System, Product and Production Engineering, Material Management, Production Plan, Production Planning, Manufacturing and Assembly Rationalization Quality, Information in Manufacturing, Production Organization, Manufacturing Cost.

3) 【Course Title】 Ergonomics

工效学

【Course Code】 70160613

【Credits】 3

【Credit Hours】 48

【Semester】 Fall

【Capacity】 50 Graduate Students

【Instructor】 RAO Peilun 饶培伦

【Course Description】

This lecture covers the basic theory of physiology, psychology and management. It will discuss the following topics like system analysis and optimization of the relations among human, computer and environment and so on. That is to say, the

working efficiency and product competition can be improved; on the other hand, the comfortable and safety working environment can be realized.

4) 【Course Title】 Introduction to Decision Making
决策方法学

【Course Code】 70160513

【Credits】 3

【Credit Hours】 48

【Semester】 Fall

【Capacity】 50 Graduate Students

【Instructor】 ZHAO Lei 赵磊

【Course Description】

Mathematic programming methods: 1. Linear Programming: a) Fundamentals and modeling, b) Simplex method, c) Duality and sensitivity analysis. 2. Transportation and assignment problems. 3. Network optimization models. 4. Dynamic programming. 5. Integer programming basics. 6. Nonlinear programming basics. Decision analysis Probability and statistics: 1. Introduction to probability theory: a) Fundamentals and concepts, b) Conditional probability. 2. Random Variables: a) Distributions, b) Expectation and variance, c) Common distributions. 3. Sampling and estimation: a) Common statistics, b) Confidence intervals, c) Hypothesis tests.

5) 【Course Title】 Systematic Product Design and Development
系统化产品设计与开发

【Course Code】 80160283

【Credits】 3

【Credit Hours】 48

【Semester】 Fall

【Capacity】 50 Graduate Students

【Instructor】 CHENG Ye 成晔、ZHANG Wei 张伟

【Course Description】

The objective of this course is to develop the interdisciplinary knowledge and skills required for systematically executing a given design task and to prepare students qualified for engineering work in modern enterprises. In addition, effective communication skills and ability for synthesizing different perspectives of product design are expected to be developed. Students will be exposed to the theories, methodologies and tools assisting product planning and management, project management, cost management for product development, rationalization of design process, variant development, quality assurance for product development. New tools assisting engineering design work will be introduced. Hands-on design experience and skills will be gained and learned through problem sets. Besides regular lectures, weekly exercises, projects and in-class discussion sessions will be held. An understanding of complex design issues in real-world will be developed through a collaborative design and development project throughout the semester.

6) **【Course Title】 Systematic Product Design and Development**
定量分析

【Course Code】 80160393

【Credits】 3

【Credit Hours】 48

【Semester】 Fall

【Capacity】 50 Graduate Students

【Instructor】 DENG Tianhu 邓天虎

【Course Description】

This course is designed to provide an understanding of probability and statistics. In this course, we cover materials such as discrete and continuous random variable, probability distribution, statistical inference, hypothesis testing, experimental design and linear regression. We focus on applications in the field of production management and supply chain management.

7) **【Course Title】 Engineering and Technology Management**
工程与技术管理

【Course Code】 80160363

【Credits】 3

【Credit Hours】 48

【Semester】 Spring

【Capacity】 55 Graduate Students

【Instructor】 HE Fang 何方 WANG Chen 王琛

【Course Description】

- Engineering and Management
- Functions of Technology Management
- Human Aspects of Organizing
- Leading Technical People
- Engineers in Marketing
- Globalization
- Engineering Economy

8) **【Course Title】 Enterprise Information Management**
企业信息资源管理

【Course Code】 80160033

【Credits】 3

【Credit Hours】 48

【Semester】 Spring

【Capacity】 40 Graduate Students

【Instructor】 CAO Hui 曹晖

【Course Description】

This graduate course leads students to systematically explore the fast expanding field of information systems and their applications in enterprises. Students will investigate the organizational and technical impact between enterprise

management strategies and information system/technologies.

The course aims at getting students to think about the overall picture of enterprise information systems, match up the relationship between the production problems and corresponding IT solution, and at the same time, understand the methodologies of system analysis and design for enterprise information systems.

The course will help students choose from various information systems and development/integration strategies in an enterprise context. Strategies include Enterprise Resource Planning, Supply Chain Management, Customer Relationship Management and Product Lifecycle Management will be investigated, and the methods of system analysis, enterprise modeling and enterprise integration will be discussed.

9) 【Course Title】 Logistics & Supply Chain Management

物流与供应链管理

【Course Code】 80160223

【Credits】 3

【Credit Hours】 48

【Semester】 Spring

【Capacity】 55 Graduate Students

【Instructor】 HUANG Simin 黄四民

【Course Description】

Develop a knowledge and understanding of the issues and technologies underlying supply chain management with a focus on analysis and design skills for Logistics systems, including demand management, inventory management, logistics network design, supply chain risk, etc.

10) 【Course Title】 Manufacturing in China

中国制造

【Course Code】 80160423

【Credits】 3

【Credit Hours】 48

【Semester】 Spring

【Capacity】 30 Graduate Students

【Instructor】 ZHANG Chi 张弛 ZHENG Li 郑力

【Course Description】

Competence after taking this course: capable of analyzing and diagnosing complex production systems Knowledges to deliver: 1. Fundamental knowledge on production system modeling and analysis; 2. Production automation and its developing trends 3. A whole picture of Manufacturing in China integrated with logistics and supply chains 4. relationship between Manufacturing in China and Global manufacturing.

Methods: 1. Lectures on production systems; 2. Tours and on-site lectures in different production lines.

11) 【Course Title】 China Studies: Industry, Society and Culture

中国研究：产业、社会与文化

【Course Code】 80160433

【Credits】 3

【Credit Hours】 48

【Semester】 Spring

【Capacity】 30 Graduate Students

【Instructor】 ZHU Wanshan 朱万山 MA Liang 马靓

【Course Description】

China is in the process of transforming from a society dominated by agriculture to one by modern industries. However, this transformation process is not a simple replication of the industrialization process that revolutionized the western world in the first half of the twentieth century because the Chinese culture and the new technologies make this process distinct and bring many new challenges. This course teaches students the new trends and challenges in various industries that the industrial engineering may make the highest impact, and discuss the reach problems in these industries. The students will also learn the tools that have been used to solve these research problems. The focus industries include supply chain and logistic, transportation, energy, retail, medical service, and e-commerce. Emphasis is on the impact of the Chinese culture on the trends and challenges of these industries and on the difference between the Chinese and western industries. The course consists of learning the industry background in class room and on-site visiting & investigation, equally splitting in total learning hours.