

Degree Requirements for Graduate Students of Tsinghua University

Graduate study at Tsinghua University is composed of coursework and a research project.

Doctoral programs

- **Time to degree**
 - ✚ 3-4 years with a master's degree
 - ✚ 4-5 years without a master's degree
 - ✚ ~3 year dissertation work
- **Coursework requirement:** Doctoral students shall earn 10 degree credits for coursework and doctoral students without a master's degree shall earn at least 28 credits for coursework.
 - **Required courses**
 - ✚ Chinese Culture and Society 2 credits
 - ✚ Chinese Language 2 credits
 - **Other requirements**
 - ✚ Qualifying exam 1 credit
 - ✚ Literature Review and Research Proposal 1 credit
 - ✚ Seminars 2 credits

Master's programs

- **Time to degree**
 - academic degree programs
 - ✚ 1 year coursework
 - ✚ 1-2 year thesis
 - professional degree programs
 - ✚ 1-2 year coursework
 - ✚ 1 year research project
- **Coursework requirement:** Master's students shall earn 23 degree credits with a minimum of 17 coursework credits.
 - **Required courses**
 - ✚ Chinese Culture and Society 2 credits
 - ✚ Chinese Language 2 credits
 - **Other requirements**
 - ✚ Literature Review and Research Proposal 1 credit
 - ✚ Seminars 1 credit

Course List (Courses offered in English for graduate students)

- 1. Department of Civil Engineering**
- 2. Department of Hydraulic Engineering**
- 3. Department of Environmental Science and Engineering**
- 4. Department of Mechanical Engineering**
- 5. Department of Precision Instruments and Mechanology**
- 6. Department of Thermal Engineering**
- 7. Department of Automotive Engineering**
- 8. Department of Industrial Engineering**
- 9. Department of Electronic Engineering**
- 10. Department of Computer Science and Technology**
- 11. Department of Automation**
- 12. Department of Microelectronics and Nanoelectronics**
- 13. Department of Chemical Engineering**
- 14. Zhou Peiyuan Application Center**
- 15. School of Economics and Management**
- 16. School of Public Policy and Management**
- 17. School of Humanities and Social Sciences**
- 18. Department of Foreign Languages**
- 19. School of Law**
- 20. School of Software**

Graduate Courses Taught in English in Department of Civil Engineering

【Course Code】 70030023

【Course Title】 Elasticity and Plasticity

【Semester】 Autumn **【Credits】** 3

【Course Code】 70030033

【Course Title】 Finite Element Method and Fundamentals of Variational Principles

【Semester】 Spring **【Credits】** 3

【Course Code】 80030562

【Course Title】 Mechanics of Granular Materials(MGM): Theories and Practices

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

Granular materials are quite common in nature, as well as in industry, e.g. geomaterials including concrete, rocks and soils. This class presents the development of an understanding of the mechanical behavior of granular materials from a microscopic point of view in a readily usable form. Topics to be covered include: the Particulate Nature and Fundamentals of MGM; Discrete Element Approaches; Experimental Studies of Fabrics of Granular Materials; Liquefaction and Rapid Flow of Granular Materials. Some knowledge of numerical and laboratory testing is assumed for all students.

**Graduate Courses Taught in English in Department of Hydraulic
Engineering**

【Course Code】 80040103

【Course Name】 Integrated River Management

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

Graduate Courses Taught in English in Department of Environmental Science and Engineering

【Course Code】 70050192

【Course Title】 Environmental Soil Science

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

【Course Code】 70050274

【Course Title】 Principles of Scientific Writing

【Semester】 Spring **【Credits】** 4

【Brief Introduction】

【Course Code】 80050161

【Course Title】 Stormwater Management and Nonpoint Source Pollution Control:
Theory and Practice

【Semester】 Autumn **【Credits】** 1

【Brief Introduction】

A discussion of nonpoint sources of pollution (NPS) in general, and stormwater-induced pollution in particular. Emphasis will be on stormwater management planning and design in urban and non-urban areas. An integrated watershed management approach, such as the Total Maximum Daily Load (TMDL) strategy in water pollution control will be described. Topics include stormwater and related regulations; sources and impact of nonpoint pollution; best management practices (BMP) such as detention ponds, filter strips and constructed wetlands; BMP planning and design methodologies including BMP process models and placement optimization tools; institutional/organizational considerations, and case studies; Integrated water management for urban areas, and the beneficial use of stormwater. The course will address both theoretical considerations and more so real-world implementation issues.

Graduate Courses Taught in English in Department of Mechanical Engineering

【Course Code】 80120013

【Course Title】 Multi-Component Phase Equilibrium Diagram

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

【Course Code】 80120253

【Course Title】 Welding Technology I: Welding and Cutting Technologies

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

**Graduate Courses Taught in English in Department of Precision
Instruments and Mechanology**

【Course Code】 80130093

【Course Title】 Electromagnetic Theory of Gratings

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

Graduate Courses Taught in English in Department of Thermal Engineering

【Course Code】 80140012

【Course Title】 Reading and Writing of Technical Papers in English

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

【Course Code】 80140032

【Course Title】 Numerical Methods in Heat Transfer

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

Graduate Courses Taught in English in Department of Automotive Engineering

【Course Code】 70150113

【Course Title】 Vehicle Control Engineering

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

【Course Code】 80150082

【Course Title】 Vehicle Crashworthiness and Occupant Protection

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

【Course Code】 80150122

【Course Title】 Materials Selection in Mechanical Design

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

In this course, systematic selection methods of materials for a variety of structural designs will be taught. The approach is based on the concept of performance indices and materials selection charts that provide a quantitative method for the selection of materials with optimal combinations of properties. This approach, while particularly useful for mechanical designs, can also be applied to the selection of materials based on physical properties (e.g. electrical or thermal), and to the selection of methods for materials processing. The primary goal of this course will be for students to learn to identify, based on previously-defined design requirements, the basic function of an engineering object, the parameters to be optimized and the best material(s) to meet the design requirements. Students should also become aware of the breadth and range of material properties associated with different material classes, the basic processes available for processing materials and how to relate the shape of a component to its mechanical response.

【Course Code】 80150152

【Course Title】 Advanced Topics in Automotive Safety

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

Graduate Courses Taught in English in Department of Industrial Engineering

【Course Code】 70160023

【Course Title】 Quality Engineering

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

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

【Course Code】 70160033

【Course Title】 Production Management

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

Contents

Introduction and production system

Product and Production Engineering,

Material Management,

Production Plan,

Production Planning,

Manufacturing and Assembly Rationization

Quality,

Information in Manufacturing,

Production Organization,

Manufacturing Cost

【Course Code】 70160043

【Course Title】 Ergonomics and Work Organization

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

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.

【Course Code】 70160063

【Course Title】 Manufacturing Technology I

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

Workpiece accuracy and measurement techniques

Principles of machining with geometrically defined/undefined cutting edges

Cutting materials and tools

Cooling lubricants

Machinability

Process monitoring of cutting processes

Preparing grinding wheels for use

Grinding using grinding wheels

Physical manufacturing processes

【Course Code】 70160273

【Course Title】 Welding Technology(I)

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

【Course Code】 70160353

【Course Title】 Systematic Engineering Design II

【Semester】 Spring/Autumn **【Credits】** 3

【Brief Introduction】

Organization of a development/design department; Planning tasks and projects; Product structure; Cost management; Rationalization of the design process; Size ranges, modular products, modules, features; Engineering tools; Design for quality; Ergonomics, industrial design; The process of innovation

【Course Code】 70160383

【Course Title】 Manufacturing Technology II

【Semester】 Spring/Autumn **【Credits】** 3

【Brief Introduction】

【Course Code】 70160483

【Course Title】 Production Management II

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

【Course Code】 70160513

【Course Title】 Introduction to Decision Making

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

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

7. 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

【Course Code】 80160032

【Course Title】 Enterprise Integration

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

【Course Code】 80160123

【Course Title】 Modern Production Engineering

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

【Course Code】 80160172

【Course Title】 Advanced Quality Management

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

【Course Code】 80160223

【Course Title】 Logistics and Supply Chain Management

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

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.

Graduate Courses Taught in English in Department of Electronic Engineering

【Course Code】 80230032

【Course Title】 Special Topics on Image Engineering

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

The contents of this course vary from year to year. One or two selected special topics are given based on the scientific research focus and tendency of the concurrent year. In the course we will introduce the fundamentals of the selected topics, histories, future directions, possible ways, theoretical tools and engineering trainings, and hence bring you from the very beginning to the research front. Making complicated things easy to understand is the teaching style of this course.

【Course Code】 80230142

【Course Title】 Radio Wave Propagation

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

**Graduate Courses Taught in English in Department of Computer
Science and Technology**

【Course Code】 70240063

【Course Title】 Distributed Database Systems

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

This course consists of two parts: (1) Theoretical study of distributed database systems. It covers the core of principles of distributed database management systems, including database design, architecture of Distributed Database Management System (DDBMS), concurrency control, distributed transaction management, and recovery. This part also gives an overview introduction to parallel database systems. (2) Experimental DDBMS. In this part, students are organized in teams to design and implement a mini-DDBMS with distributed SQL query processing and optimization capacities in network environment. The system is subject to the benchmark testing of the course.

Graduate Courses Taught in English in Department of Automation

【Course Code】 70250332

【Course Title】 Network Security

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

1. IP Networking OSI Layers and Associated Security Issues
 - a. L2 Review: Ethernet and VLAN
 - b. L3 Review: IP, ICMP and L2 Tunneling (MPLS & BGP, IPSec, PPTP/L2TP, and PPPoE/A)
 - c. L4 Review: TCP/UDP
 - d. L5-L7 Review: HTTP, FTP, DNS, SIP, SSL/SSH, etc.
2. Data Structure and Algorithms
 - a. Packet Headers and Checksum
 - b. Classification: Hash, Prefix Matching, Trie, etc.
 - c. Cryptograph: 3DES, AES, MD5, SHA1
3. Authentication
 - a. Privileges and Passwords
 - b. RADIUS, LDAP, Windows Domain, Secure ID, SmartCard
4. Authorization: Firewall (I)
 - a. L2 Packet Filtering: VLAN and MAC-IP Binding
 - b. L3/4 Packet Filtering: Policy Lookup
5. Authorization: Firewall (II)
 - a. L4 Stateful Inspection (Session Lookup and Fail-over)
 - b. L5-L7 Application Proxy
6. Confidentiality and Integrity: VPN (I)
 - a. PPP and SSL based VPN
 - b. PKI
7. Confidentiality and Integrity: VPN (II)
 - a. IKE and IPSec
 - b. IPSec VPN Topology
8. Protection and Non-repudiation: NID/PS
 - a. Signature Based Solution
 - b. Anomaly Analysis
9. Engineering Issues in Network Security (I)
 - a. CPU, ASCI and NPU
 - b. OS, HID/PS, and Secure Coding
10. Engineering Issues in Network Security (II)
 - a. Performance vs. Functionality
 - b. Flexibility vs. Usability
 - c. Reliability, Scalability and Manageability
11. Project Discussion
12. Project Presentation

【Course Code】 70250392

【Course Title】 Enterprise Informationization and its System Analysis & Design

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

【Course Code】 80250522

【Course Title】 Communication Technology Research and Entrepreneurship

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

Communication technologies play important roles in today's economic developments. Communication technology research is a dynamic field with constant innovations that quickly enter the arena of commercial market. This course introduces several key technologies in communication research; illustrates their development from the laboratories to the industry today and trace their roots into the vision of entrepreneurs. Recent topics in communication technology research with commercial potential are identified and students are required to complete projects that focus on selected topics.

【Course Code】 80250792

【Course Title】 Advanced Computing Technologies and Applications

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

In 21st century, new challenges in science, research, education and engineering are becoming more and more complicated. Traditional analytical and experimental methods can no longer meet requirements of large scale science exploring and engineering problems. Computation is considered to be the third dimension of science and research and many questions are only now coming within our ability to answer because of advances in computing and related information technology.

The course is focused on several typical advanced computing technologies, e.g. cluster computing, grid computing and services computing, from perspectives of theories, methods, tools and applications. The course encourages interactions, demonstration, discussion and experiments and allows a deeper understanding of theories and methods of advanced computing via hand-on experiences of corresponding software toolkits. A better understanding of features and trends of advanced computing is expected via discussion and interactions among students. The course finally aims to improve students with higher creativity, problem-solving ability and software application skills.

【Course Code】 90250052

【Course Title】 Performance Evaluation and Optimization of Complex Systems

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

The modern world is increasingly populated by complex human made systems ranging from manufacturing plants, communication networks, traffic and logistic systems, electric power grids to C4I military systems. Performance analysis of such

systems is time consuming, and designing them for better performance or optimization is even more burdensome. This course will examine the modeling and simulation of such systems and discuss the limitation as well as promising tools for dealing with such systems. The course will involve active participation and learning by attendees.

**Graduate Courses Taught in English in Department of Microelectronics
and Nanoelectronics**

【Course Code】 80260042

【Course Title】 PLL Design and Clock/Frequency Generations

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

This course gives insights into phase-locked clock generation as well as the ability of gaining system perspectives and circuit design aspects of phase-locked loop (PLL) for wireless and wireline communications. In the first half of the course, basic theoretical analysis of the PLL and system/circuit design considerations will be discussed. The second half of the course consists of extensive lectures covering practical design aspects in various PLL applications and more advanced topics; frequency synthesis, clock-and-data recovery, delay-locked loops, on-chip testability and compensation, coupling in SoC design, and future challenges.

Graduate Courses Taught in English in Department of Chemical Engineering

【Course Code】 70340132

【Course Title】 Bioseparation Engineering

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

【Course Code】 80340112

【Course Title】 Surface Science and Heterogeneous Catalysis

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

Solid-State Chemistry and Surface Chemistry of Catalysts; Fundamental Catalysis: Bonding and Elementary Steps in Catalysis; Characterizing Catalysts and Their Surfaces; Poisoning, Promotion, Deactivation and Selectivity of Catalysts;

【Course Code】 80340162

【Course Title】 Computer Simulation of Fluids and Its Advances

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

【Course Code】 80340172

【Course Title】 Chemical Kinetics and Reaction Mechanisms

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

1. Basic Concepts of Kinetics

Definition of the Rate, Order and Molecularity, Elementary Reaction Rate Laws

DeSemesterination of Reaction Order, Temperature Dependence of Rate Constants

Stoichiometry Equations and Reaction Mechanisms

Transition State Theory and Microscopic Reversibility

2. Complex Reactions

Exact Analytic Solutions for Complex Reactions

Approximation Methods: The Steady-State Approximation, Rate Controlling Step, Lumping

Examples: Chain Reactions and Catalyzed Reactions

DeSemesterinant (Matrix) Methods

Stochastic Method

3. Characterizing Reactions and Mechanisms

Techniques for Kinetic Measurements, Treatment of Kinetic Measurements

Identification of the InSemesterediate

Equivalent Kinetic Expressions, Kinetically Indistinguishable Schemes

Numerical Simulations

4. Reactions in Solution

General Properties of Reactions in Solutions

Diffusion-Limited Rate Constants, Slow reactions
Effect of Ionic Strength on Reactions between Ions
Linear Free-Energy Relationships

5. Catalysis

Adsorption and Desorption
Heterogeneous Catalysis and Gas-Surface Reactions
Simultaneous Reaction and Diffusion
Autocatalysis and Oscillating Reactions

Graduate Courses Taught in English in Zhou Peiyuan Application Center

【Course Code】 80490013

【Course Title】 Nonlinear Wave Motion

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

This course covers a modern treatment of nonlinear wave motion as well as their applications to physics and engineering.

Topics include:

linear wave equations; dispersion; asymptotic analysis;

group velocity;

the KdV equation, the nonlinear Schrödinger (NLS) equation and their physical derivations in water waves and nonlinear optics;

integrable equations; the inverse scattering transform method;

solitons; soliton collisions; N-soliton solutions;

Hirota method;

soliton perturbation theory;

weak interactions of solitons;

transverse instability;

the Schrödinger equations; internal modes;

numerical methods for calculating internal modes;

soliton perturbation theory for non-integrable equations;

embedded solitons and their stability properties;

the (2+1)D nonlinear Schrödinger equation; critical collapse;

nonlinear wave behavior in photonic lattices.

【Course Code】 80490021

【Course Title】 Numerical Methods in Wave Equations

【Semester】 Spring **【Credits】** 1

【Brief Introduction】

This course presents new and efficient numerical methods for the simulation of high-dimensional nonlinear wave equations (partial differential equations), deSemesterination of solitary waves in such equations, as well as stability of such solitary

waves.

1. introduction.

2. Numerical methods for the simulation of high-dimensional nonlinear wave equations.

3. Numerical methods for solitary waves in high-dimensional nonlinear wave equations.

4. Numerical methods for internal modes and unstable modes of solitary waves in high-dimensional nonlinear wave equations.

Graduate Courses Taught in English in School of Economics and Management

【Course Code】 70510143
【Course Title】 Financial Economics
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

【Course Code】 70510183
【Course Title】 Sample of Corporate Financial Theory
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

【Course Code】 70510523
【Course Title】 Advanced Stochastic Models and Optimization
【Semester】 Autumn **【Credits】** 3
【Brief Introduction】

【Course Code】 80510102
【Course Title】 Developing Economics
【Semester】 Spring **【Credits】** 2
【Brief Introduction】

【Course Code】 80511503
【Course Title】 Marketing
【Semester】 Spring/Autumn **【Credits】** 3
【Brief Introduction】

【Course Code】 80511533
【Course Title】 Corporate Finance
【Semester】 Spring/Autumn **【Credits】** 3
【Brief Introduction】

【Course Code】 80511762
【Course Title】 An Introduction to Empirical Finance
【Semester】 Spring **【Credits】** 2
【Brief Introduction】

The Predictability of Asset Returns. Market Microstructure, CAPM, Derivative Pricing Models, Fixed-Income Securities.

【Course Code】 80512073
【Course Title】 Business Analysis Using Financial Statements
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

【Course Code】 80512102
【Course Title】 Seminar on Advanced Operation Topics
【Semester】 Spring/Autumn **【Credits】** 2
【Brief Introduction】

【Course Code】 80513413
【Course Title】 Advanced Empirical International Finance
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

Lecture 1: Introduction; Exchange Rate: Determination and Economic Impact
Lecture 2: Currency and Financial Crises
Lecture 3: Financial Globalization and Economic Growth
Lecture 4: Financial Globalization and Volatility
Lecture 5: Insider Trading and Stock Market Volatility around the World
Lecture 6: National Governance and International Finance
Lecture 7: Financial Globalization and Macroeconomic Policies

【Course Code】 80513451
【Course Title】 Analysis of Multi-Echelon Stochastic Inventory Systems
【Semester】 Spring **【Credits】** 1
【Brief Introduction】

【Course Code】 80513462
【Course Title】 Decentralized Control and Coordination of Supply Chains
【Semester】 Autumn **【Credits】** 2
【Brief Introduction】

【Course Code】 80513563
【Course Title】 Fixed Income Securities Market
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

【Course Code】 90510043
【Course Title】 Advanced Econometrics II
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

【Course Code】 90510053
【Course Title】 Advanced Micro-Economics (I)
【Semester】 Autumn **【Credits】** 3
【Brief Introduction】

【Course Code】 90510063
【Course Title】 Advanced Micro-Economics (II)
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

【Course Code】 90510113
【Course Title】 Seminar on Accounting Theory
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

【Course Code】 90510153
【Course Title】 Advanced Macroeconomics I
【Semester】 Autumn **【Credits】** 3
【Brief Introduction】

Economic Growth: Theory and Empirical Evidence. Business Cycle Models.
Consumption Behavior. Asset Pricing. Time Inconsistency of Government Policies.
Money and Inflation.

【Course Code】 90510172
【Course Title】 Special Subject of Management
【Semester】 Spring/Autumn **【Credits】** 2
【Brief Introduction】

【Course Code】 90510193
【Course Title】 Advanced Theory of Capital Market
【Semester】 Spring/Autumn **【Credits】** 3
【Brief Introduction】

【Course Code】 90510273
【Course Title】 Econometric Analysis of Panel Data
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

The course will contain the following topics. 1. Unobserved Heterogeneity (fixed effects) in panel models 2. Error Component Models 3. Dynamic Panel Data Models 4. Semi-parametric Panel Data Models 5. Limited Dependent Variable Panel Data Models 6. Non-stationary Panel Data Models (if time permits)

Graduate Courses Taught in English in School of Public Policy and Management

【Course Code】 70590013
【Course Title】 Public Policy Analysis
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

【Course Code】 70590583
【Course Title】 Public Organization and Management
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

This course aims to introduce to the students the major concepts, theories and practices of contemporary public management. It will also help students access and understand the practices of Chinese public administration in the reform era. To achieve this end, instructor will adopt various teaching methods, including lecturing, case discussion, group presentations and on-site visits. Students are expected to actively participate in the teaching process and contribute to the classroom discussion.

【Course Code】 70590593
【Course Title】 Analytic Methods for Public Administration
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

Part I. Designing a Policy-Oriented Research -- Purposes of policy-oriented social research; Research design; Choice of research strategies Part II. Implementing a Policy Research -- Conceptualization, Measurement, Sampling -- Data collection: Secondary data; Survey; Observation and Interview Part III. Analytic Methods in Policy Research -- Making a Policy Decision/Evaluation: Cost-Benefit Analysis; Analytic Hierarchy Process -- Descriptive Statistics: Univariate analysis and Bivariate analysis -- Predicting and Forecasting: Regression Analysis; Time-Series Analysis

【Course Code】 80590173
【Course Title】 Comparative Politics and Government
【Semester】 Autumn **【Credits】** 3
【Brief Introduction】

【Course Code】 80590203
【Course Title】 International Political Economy
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

【Course Code】 80590213
【Course Title】 Science and Art of Leadership

【Semester】 Spring/Autumn **【Credits】** 3
【Brief Introduction】

【Course Code】 80590623
【Course Title】 Governance and Development
【Semester】 Autumn **【Credits】** 3
【Brief Introduction】

This course introduces to the students the evolution of development thinking and experiences since the end of the Second World War. It covers the colonial backgrounds and legacies, the development policies from 1950s to 1970s, the rise of the "Washington Consensus" in the late 1980s and the search for its alternatives from the Asian Financial Crisis in 1997 up to now. The current issues of "governance" is viewed from a historical perspective and analyzed with the aid of the latest theoretical advancement as exemplified in the World Development Report 2006 "Equity and Development".

【Course Code】 80590633
【Course Title】 Special Topics in Public Management
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

【Course Code】 80590643
【Course Title】 Development Economics
【Semester】 **【Credits】** 3
【Brief Introduction】

【Course Code】 80590683
【Course Title】 Politics and Government in China
【Semester】 Spring **【Credits】** 3
【Brief Introduction】

1. T Allen & A Thomas (eds), *Poverty and Development into the 21st Century*. 2. B Hettne, *Development Theory and the Three Worlds: Towards an International Political Economy of Development* (preferably second edition). 3. A Hoogvelt, *Globalization and the Postcolonial World: The New Political Economy of Development* (preferably second edition). 4. J Larrain, *Theories of Development: Capitalism, Colonialism and Dependency*. 5. A Leftwich, *States of Development: On the Primacy of Politics in Development*. 6. C Leys, *The Rise and Fall of Development Theory*. 7. P McMichael, *Development and Social Change: A Global Perspective*. 8. D Moore & G Schmitz (eds), *Debating Development Discourse*. 9. R Munck & D O'Hearn (eds), *Critical Development Theory: Contributions to a New Paradigm*. 10. J Rapley, *Understanding Development* (preferably second edition). 11. I Roxborough, *Theories of Underdevelopment*. 12. F Schuurman (ed), *Beyond the Impasse: New Directions in Development Theory*.

【Course Code】 80590693

【Course Title】 Globalization and Governance

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

The course introduces students to the key dimensions of globalization relevant for public policy analysis and decision-making. It reviews the theoretical controversies developed by the academic literature on each topic, presents the relevant data available from policy think tanks and international institutions to draw a global picture, and discusses policy case-studies borrowed from a wide comparative and international background. The course aims at offering a plurality of perspectives on the context of contemporary public policy, and to develop the knowledge of practical policy making at the international, national or local levels.

【Course Code】 80590703

【Course Title】 China's Social Policy

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

The content of the course is composed of four sections. The first section is an introduction to social policy as a field of study and setting up a framework for understanding. The second section covers major domains of social policy in China. The third section is devoted to a discussion of policy development processes at different levels of the government and resource allocation for policy implementation. The fourth section concludes the course with attempts to analyze some welfare programs as examples of policy analysis.

【Course Code】 80590713

【Course Title】 Global Classroom: Integrated Approaches to Sustainable Development Practice

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

The course “Global Classroom: Integrated Approaches to Sustainable Development Practice” is prepared for graduate students from the programs of Master in International Development (MID) as well as International Master in Public Administration (IMPA). It includes practical lessons from an expert practitioner within the field of sustainable development, literature studies, weekly discussion sections, and necessary relevant investigations. In addition to “live” discussion sections across the network of partner universities, local discussions will also be organized. For each student, a course paper should be submitted after all classes have been completed. Drawing from key concepts within the multi-disciplinary field of “sustainable development,” the curriculum is grounded in a practical approach that focuses on the inter-relationship of each of the following core fields of study: ? Agriculture and Nutrition. ? Economics. ? Environment and Climate Science. ? Management. ? Policy, Anthropology and Social Studies. ? Public Health. ? Technology and Engineering.

【Course Code】 90590023

【Course Title】 Frontier on Public Policy Study-International Economy Analysis

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

Graduate Courses Taught in English in School of Humanities and Social Sciences

【Course Code】 60610082

【Course Title】 Chinese Culture and Society

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

Introduction of Chinese geography, history, economy, politics, population, nationalities, diplomacy, traditions, customs and tourism

【Course Code】 60610132

【Course Title】 Chinese Philosophy

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

Structure of the Course

Introduction:

Topic 1: Confucianism

Topic 2: Taoism

Topic 3: Buddhism

Topic 4: Modern Chinese Political Philosophy

Contents:

Introduction

1. Chinese Traditional Philosophy as a Whole

2. Religion and Philosophy

Topic 1: Confucianism

1. Pre-Ch'in

2. Han and Tang Dynasty

3. Song and Ming Dynasty

4. Related Social Structure

Topic 2: Taoism

1. Pre-Ch'in Dynasty

2. Southern and Northern Dynasty

3. Tang Dynasty

4. Related Social Function

Topic 3: Buddhism

1. Before Tang Dynasty

2. Tang Dynasty

3. After Tang Dynasty

4. Buddhism vs. Other Religions

5. Related Social Function

Topic 4: Modern and Traditional Culture

1. Universalism and Nationalism

2. Traditional Philosophy and Marxism

3. The Transformation and Uprising Period

4. Integral Political Philosophy
5. The Great Chessboard of China

【Course Code】 60610142

【Course Title】 A Comparative Study of Chinese Culture and Society

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

Lecture One: Culture and Society

Lecture Two Land and People

Lecture Three Chinese Architecture

Lecture Four Chinese Language and Literature

Lecture Five Chinese Arts: Peking Opera, Calligraphy and Painting

Lecture Six Chinese Religion

Lecture Seven Women in China and America

Lecture Eight The Youth in China and America

Lecture Nine Chinese Education

Lecture Ten China in a Cross-Cultural Communication

【Course Code】 80611293

【Course Title】 The Ethics of Social Justice

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

Graduate Courses Taught in English in Department of Foreign Languages

【Course Code】 90640042

【Course Title】 A Critical Reading of Masterpieces in Anglo-American Literature

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

Graduate Courses Taught in English in School of Law

【Course Code】 70660113

【Course Title】 International Law

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

【Course Code】 70660573

【Course Title】 International Humanitarian Law

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

【Course Code】 80660654

【Course Title】 Foundations of Common Law (2)

【Semester】 Spring **【Credits】** 4

【Brief Introduction】

【Course Code】 80660673

【Course Title】 Foundations of Common Law (4)

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

【Course Code】 80660922

【Course Title】 Intellectual Property in Cyberspace

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

【Course Code】 80660973

【Course Title】 Comparative Banking Law

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

【Course Code】 80661042

【Course Title】 Seminar On Foreign Laws-Legal Writing

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

【Course Code】 80661052

【Course Title】 Seminar On Foreign Laws-Advocacy Techniques

【Semester】 Autumn **【Credits】** 2

【Brief Introduction】

【Course Code】 80661173

【Course Title】 Seminar on Constitutional Review

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

【Course Code】 80661193

【Course Title】 International Intellectual Property Treaties

【Semester】 Autumn **【Credits】** 3

【Brief Introduction】

【Course Code】 80661352

【Course Title】 American Constitutional Law Subject

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

【Course Code】 80661393

【Course Title】 Advanced Study in WTO Law

【Semester】 Spring **【Credits】** 3

【Brief Introduction】

This course will explore selected topics in the law of the World Trade Organization, with a special focus on legal and policy issues encountered by China in the world trading system. It will be taught in English and will feature lectures, class discussions, and mini-debates. The class will meet 3 hours per week.

Graduate Courses Taught in English in School of Software

【Course Code】 74100102

【Course Title】 Systems Security

【Semester】 Spring **【Credits】** 2

【Brief Introduction】

- 1.Computer and Network Security;
- 2.Cryptographic Techniques;
- 3.Security Protocols;

Note: 1 credit equals 16 hours of class