

...sustainable future. ...ability ...ce,  
 ...climate ...s ...y of r  
 ...y ...s ...urs ...rag ...y thin  
 ...er sustainability. Class projects will require integration of environmental, economic, engineering  
 and social science knowledge to measure the challenges of sustainability and build solutions.  
 This course is intended to apply for undergraduate general education, to help students analyze the global nature  
 of sustainability with a connected and developing perspective, cultivate their international perspectives, us  
 enhance the sense of social responsibility, and improve their will to avoid adverse impacts on the  
 environment with developing technologies. Class discussions will be included in the course to improve students'  
 logical and critical thinking skills, and English will be used in lectures and assignments to enhance  
 students' ability to communicate internationally. The

**000172 Transportation for Tomorrow (C-Campus Course) 2 credits 32 hours**

“Transportation for Tomorrow” course included in Tsinghua-KTH course “Creative Learning” is hosted by both  
 Tsinghua University and KTH. The



introduces basic principles of steel structures by means of lectures. More specifically, the contents include: i) characteristics and advantages of steel structures, their development and application as well as basic requirements for their design; ii) manufacturing process, mechanical properties and selection of steel structural materials; iii) connections in steel structures and their fundamental behaviour; iv) failure modes of steel members subjected to axial loadings, design theories of their strength, stiffness, overall and local buckling, as well as basic concept and performance; v) flexural behaviour and basic concept of steel members; vi) mechanical performance of steel members subjected to bending with tension or compression in combination, including basic concept and configuration details; vii) typical joints in steel frame structures and their configurations. National standards are also incorporated in this course, including the China's one and the

course will introduce the global environmv

technology and management is a fast developing field with frequently updated knowledge and information. This course extremely encourages students to challenge the conventional viewpoints and existing database of knowledge. The lecturer has the responsibility to lead students to think and behave in such creative and originative ways.

**40050762 Introduction to International Environmental Law      2credits   40hours**

This is a five days intensive course on international environmental law, using Beyerlin and Marauhn's work (International Environmental Law) as a textbook. The course covers the following major themes: History of international environmental law; source of international environment law; major Principles of environmental law; topic Studies (Current international law on Ocean and Marine resources, and Climate Change); law-making and enforcement processes; relationship between international environment law and trade law.

**40050773 Sustaina**

the heat treatments of steels and nonferrous alloys are introduced, and the metastable microstructural development and mechanical property alteration are described.

The third part gives a general introduction about the typical compositions, processing, and applications of structural materials, : n

**30140362 Numerical Methods in Fluid dynamics**

The course is mainly divided into three parts: chemical kinetics, introduction of quantum theory and spectroscopy, and several special topics, which are directly related to applications in the field of energy. These special topics include molecular interactions, molecular reaction dynamics, and processes at solids



discussion and interactions, invited talks, conducting actual research projects, and mock procedures and presentations of international conference for evaluation of final projects.

**30220363 Modern Control Systems 3credits 48hours**

This course provides the basic knowledge about classical control theory, modern control theory and discrete control theory.

For classical control theory, the following contents will be introduced: system modeling, transfer function and its transformation, concepts and criterion for system stability, time-domain and frequency-domain analysis method for control systems, control system design using time-domain and frequency-domain methods.

For modern control theory, the following contents will be taught: state space model of a control system observability and controllability of a system, state feedback controller, state observer and implement of a state feedback controller using signals from a state observer, etc.

For discrete control theory, the following contents will be addressed: modeling and analysis methods for discrete control systems, design method for a discrete-data controller, etc.

This course is delivered in English.

**30220434 Electric Machinery Fundamentals 4credits 64hours**

Electric Machinery Fundamentals focuses on the basic electro-magnetic theory of electric machines. The course covers the fundamentals of transformers, synchronous machines, asynchronous machines and DC machines.

This course is one of the key fundamental courses for students in Electrical Engineering, and is a prerequisite course for many advanced courses.

**20230313 Foundation of Solid State Physics 3credits 48hours**

Solid-state physics studies the properties of

This course covers the basic knowledge of elementary probability without rigorous treatment via measure theoretical tools. It includes probability spaces (sample spaces, sigma fields and probability), random variables with its probability distribution, distribution functions and probability density, independence, conditional probability, discrete random variables (Bernoulli, Binomial, Poisson, Geometrical, Hyper-geometrical, Negative binomial), continuous random variables (Uniform, Exponential, Gaussian), numerical characteristic of random variables (expectation, variation, high-order moments, entropy), transformation of random variables with its derived distribution, conditional expectation and conditional distribution, characteristic functions and basic limit theorems.

**30231034 Communications and Networks 4credits 64hours**

“Communications and networks” is one of the ten core courses of Dept. EE, Tsinghua University

This course is designed for students interested in the physical processes and practical methods of silicon VLSI chip fabrication, or the application of technology on level and circuit design.

**30260163 Foundations of Integrated Circuit (1) Credit: 48hours**

This course intends to introduce the analysis and design methodologies for the digital circuits and transistor-level digital integrated circuits. First

and equivalent force systems. Equilibrium of rigid bodies. Analysis of simple structures such as trusses, frames, and beams. Centroids, centers of gravity, and moment

Students entering t

**10430354 Physics(2)(in English) 4credits 64hours**

In the first half of the semester, we in this class focuses mainly on the theory on the electromagnetism, from Coulomb's L

and even quantum gravity.

**30450203 Biochemistry(1)(in English) 3credits 48hours**

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...pursues... and a rapidly expanding international research activity. But increasingly, it is also a focus for education as courses and degree programs in sustainability, sustainable development, and sustainability science proliferate. For these newly designed courses and programs, and for the many more scholars and scientists who want to explore the inclusion of sustainability science in their ongoing educational activities, there is need for organized teaching materials. This course explores the idea of “sustainable development” its historical context, contemporary understandings, and practical implications Finding ways to improve human well-being

algebra perspective will be systematically trained and enhanced.

**20470054 Abstract Algebra 4credits 64hours**

Abstract algebra studies fundamental algebraic structures of groups, rings and fields, etc. It is the foundation of modern mathematics and has broad and vital applications across different disciplines including computer science, physics, and chemistry.

In this course, the students will learn the basic theory of groups, rings and fields, including subgroups, groups' actions, Sylow theorems, homomorphisms and isomorphism, the fundamental homomorphism theorem, Cauchy's theorem, the fundamental theorem of finitely generated groups, polynomial rings, quotient rings, ideals, the Chinese remainder theorem, Euclidean domains; principal ideal domains; unique factorization domains; field extension, algebraic extensions; splitting field, fundamental theorem of algebra, and Galois theory, etc. In addition, this course will also

introduce the basics of lattices and Boolean algebras.

**20470073 Introduction to Artificial Intelligence 3credits 48hours**

This course aims at providing freshmen students with a broad overview of the Artificial Intelligence field, including computer vision, robotics, reinforcement learning, AI systems, and AI algorithms, motivating them to study the field, and encouraging them to conduct in-depth investigation on different areas of the field. It is a required course for freshmen students in the Special Artificial Intelligence Polit Class. Lectures will be given by leading experts in AI areas from both academia and industry.

**20470084 Computer Architecture 4credits 64hours**

This course introduces modern computer architecture, which focuses on the hardware/software interface and the internal structural organization of computer systems.

It covers the major hardware components and key design techniques in computer architecture, including system performance and efficiency metrics, instructions and instruction set architectures, processor structures, memory hierarchies, IO devices, and hardware specialization techniques. From an architectural perspective, the course focuses on the high-level functionalities and interaction of the system components, and abstracts away the low-level implementation details. It demonstrates how to optimize the performance and efficiency of the software through better understanding the architecture of the hardware. In addition, the course introduces the support for parallelism and specialization in modern computer systems as advanced topics, considering the ubiquity of parallel computing and specialized computing nowadays. The course also briefly introduces several state-of-the-art research advances. The lab assignments involve the assembly-level code analysis and optimization, the processor pipeline simulation, the cache functional implementation, and more. Upon the completion of the course, students will understand the basic concepts and the main functionalities of the system components, as well as how they interact with each other. They will also learn the analysis methodology and the design principles for computer architecture, and be introduced to the tradeoffs between performance, efficiency, and cost in computer systems.

**20470112 AI+X Computing Acceleration: From Algorithms Development, Analysis, to Deployment 2credits 32hours**

This course is at end of sophomores of Yao class and Zhi class in the summer short semester.

After two years of accumulation of basic knowledge, students have accumulated essential programming experience, basic knowledge and some practice of AI algorithm, computer core courses such as programming language, basic knowledge of digital circuit, computer architecture, etc., and also began to take some courses and

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research of AI +X.

The course objective is to connect the courses learned by most students in the past two years to carry out a practical project from development to deployment.

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**30470293 Mathematics for Artificial Intelligence 3credits 48hours**

This course aims to introduce the fundamental mathematical techniques used in artificial intelligence undergraduate programs, demonstrated within a rich spectrum of applications. Artificial intelligence (AI) has close connections with a wide variety of disciplines and applications. Thus a sound AI education requires the students to be equipped with broad knowledge in mathematics, so that they could cope with current and future technological challenges handily and innovatively. In this course, mathematical techniques from linear algebra, high-dimensional geometry, statistical inference, mathematical optimization, and information theory will be covered. These techniques will be applied to algorithmic and design problems in various topics, including machine learning, massive data, compressed sensing, Bayesian network, drug design, natural language processing, etc. Finally, this course introduces the students to deep scientific issues in the foundation of computing such as complexity theory and quantum artificial intelligence.

**30470303 Probability and Statistics 3credits 48hours**

Statistical methods offer a powerful toolkit to extract useful information from massive and noisy observational data. This course introduces

homomorphic encryption, and program obfuscation.

**40470243 Artificial Intelligence: Principles and Tech**

This is a course focusing both on theoretical and experimental hardware fundamentals. The target is to implement small scale convolution operation in CNN on FPGA. After the course, students should be able to handle:

How to divide control logics and computing logics.

How to implement logics, timing, state machine etc.

Able to make testbenches.

Able to map to FPGA, and debug on it.

Know basics about back-end about ASIC and design, like verification, layout

etc.

Able to implement a 3\*3 convolution layer, and finish the local memory, global memory.

#### 40410333 Data Mining 3 credits t 48hours

This course offers a broad coverage of topics related to Data Mining. The first half of the course cover basic data mining concepts including data preparation, knowledge representation, classification, clustering, and

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**40470382 Multimedia Computing 2credits 32hours**

With the development of Internet, multimedia data have become increasingly accessible, such as images, audios, videos, texts, etc; the advances of artificial neural networks have made it easy to process these data. This course covers applications including image and video processing, audio and speech processing, natural language processing. It introduces popular signal processing and machine learning techniques in the artificial intelligence field, such as data representation, data compression, frequency-domain transformation, convolutional neural networks, sequence models, data synthesis, multimodal fusion, etc. Through lectures and course projects, students learn about the features of different signals, and their common ground. This class can serve as the prerequisite for computer vision and natural language processing classes.

**40470396 AI+X 6credits 96hours**

This course is a core course in IIS Zhi Class, which aims for letting students solve interdisciplinary problems using AI techniques, assuming that the students have already taken systematic AI courses. This course contains multiple themes, where each theme contains a few different projects. Students will form teams of size 1-2 people. Each team will pick one project, and solve the specific problems using AI techniques. The goal of this course is to let students finish one AI project from the beginning to the end, understand the potentials and limitations of AI techniques, as well as understand what kind of human/data support are necessary for making AI work. This course assumes that the students have already taken Machine Learning and other related AI course, and also familiar with basic tools (including Python, GitHub, SSH and so on).

**40470403 Intelligent Systems and Robotics 3credits 48hours**

This course introduces both the theoretical foundations and advanced techniques in the fields of intelligent systems and robotics, from a unified algorithmic view of both the traditional robotic control perspective and the learning perspective. The contents range from robotic system modeling and problem formulation, planning and control, estimation and perception, to adaptive behaviors using both the indirect (model-based learning) methods and direct (model-free learning) methods. The course concludes with an introduction to industrial robotic arms, autonomous vehicles, and other areas.

**40470414 Database Systems 4credits 64hours**

This course is designed to introduce the fundamental concepts and implementations of modern database management systems. This is not a course that teaches you how to build database applications (e.g., schema design, SQL programming). It is designed as a systems course, with an emphasis on database internals. Topics include relational model and SQL, storage and indexing, query processing and optimization, transactions and concurrency control, distributed and cloud databases, as well as advanced research topics in the field. Students taking this course should have basic knowledge on computer systems. No prior database experience is assumed. The course consists of lectures, written assignments, and projects. Assignments and projects are designed to reinforce what the student learned in lectures and to provide hands-on experience in building a database system. Upon successful completion of this course, the student should feel confident taking a job as a database developer or conducting database-related research in graduate school.

**40470423 Natural Language Processing 3credits 48hours**

This course will introduce important problems in the field of natural language processing such as language modeling, machine translation, and question answering, as well as core technologies to solve these problems



including attention-based neural networks and language model pretraining. The course will cover basic algorithms, real-world applications, as well as open problems in academic research.

**00510232 Management of Technological Innovation 2credits 32hours**

This course is about the the fundamentals of innovation management. The course includes four parts: (1)theories of innovation; (2)innovation strategy; (3) innovation process; (4)innovation organization.

**30510053 Econometrics 3credits 48hours**

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This course is designed for students who plan careers in the accounting and finance functions of corporations or government entities, or in the consulting/risk management/internal audit services side of public accounting and internal audit organizations. This course is designed to provide the student with insight about auditing: what it is, why it's important, what it entails, and why users of financial statements should care about it. It is an introduction to the audit function, audit standards, objectives and procedures, ethical and legal environment, materiality and audit risk, sampling, and reporting.

**30510523 Money and Banking 3credits 48hours**

This course presents basic concepts and theories in monetary and banking economics. Topics covered in the course include: the structure of financial system, financial market and financial institutions, definition of money and the role of banks, Money supply and demand, interest rate such as the determination of short-term interest rates and the structure of interest rate and exchange rate and determination of exchange rate including Purchasing Power Parity (PPP), monetary approach, asset approach, and monetary policies.

**30510524 Accounting Information System 3credits 48hours**

Information systems (IS) have become a necessary tool to improve business processes, enhance management, improve business models and build up core competitiveness. Accounting is in general concerned with the identification, collection, processing, analysis and communication of financial information about an organization. It

By the end of the course, you will achieve the following:

- 1 Be familiar with key principles of management and organizations.
- 2 Develop analytical skills in the diagnosis of organizational & managerial (in)effectiveness.
- 3 Be able to apply basic principles of management to real-world practices.

**30510743 Intermediate Microeconomics 3**



**36511053 Corporate Finance 30 credits 48 hours**

Firms compete in Consumer & Business Markets to sell their products & services and they also compete in Capital Markets for the resources required to operate their business. (Consumers provide resources) to companies with the expectation that they will earn a competitive return on their investment and bear the risk. A consumer or business manager is continuously faced with financial choices that balance the demands of both of these arenas of competition.

For the consumer these choices include, among others, financing a purchase, saving for retirement and evaluating investment products. For a business manager the choices include deciding which projects to pursue and evaluating alternative

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...course... to... with... significant issues in...  
The teaching approach will be mainly classroom lectures with some discussions and presentations

**40510193 Management Systems Simulation 3 credits 48 hours**

Many analytical models and mathematical tools have been used in business decision to improve the operational efficiency and help seize the competitive advantage. Since, however, the real world business situation and environment, regarded as a system, is usually complex, which results into that the traditional analytical methods and tools cannot fit properly. This course introduces a new methodology – simulation – into the business management systems. As its name says, in complex systems, where the number of related variables is huge and they are also closely interdependent, simulation method is to mimic the real activities as well as operations in computer environment, using the time-advance mechanism, to generate the evolutionary results over time. In so doing, after enough replications of simulation, statistically reliable results could be derived. Clearly, the computational load is extremely high. But, with mainstream personal computer nowadays, this process could be performed efficiently. In this course, we will analyze,

**40510343 Managerial Accounting (1) 3credits 48hours**

This course covers derivatives such as options, forward contracts, futures

resource economics; cost and benefit analysis. In the second part the focus is on environmental economics and policy, including economics of pollution control, valuing the environment, regional and global air pollution, water pollution and so forth. The third part is focused on natural resource economics, both renewable and non-renewable resources. The last part is on sustainable development and macroeconomic aspect of environmental policy, and Green Accounting.

#### **40511012 Business Case Analysis 2 credits 32 hours**

This course is designed for future managers who will operate in a new, globalized, and borderless world economy. Globalization and technological advances have created exciting opportunities for managers to pursue strategies in markets around the world. These developments also present managers with increasing complexity in terms of understanding diverse economic, political and social environments, managing the organizational tension inherent in coordinating activities worldwide, fostering intercultural and cross-national relationships, and interacting with employees and clients from diverse cultures.

The course synthesizes the foundations built in other cornerstone courses to explore topics such as development of cultures, globalization, firms' foreign expansion strategies.



This course is an introduction to game theory, which puts emphasis in introducing basic game-theoretic analysis, including the conception, analytic techniques and applications for each type of games.

We will discuss static games with perfect information, static games with imperfect information, and dynamic games with or without perfect information.

Most class sessions will be delivered in English and will consist of both “hands-on” experiences in structured strategic situations as well as lectures about the theory underlying these situations. Student participation is strongly encouraged.

**40511133 Econometrics(2) 3credits 48hi**

However, while more and more available information accelerates the development of new knowledge, issues pertaining to information security become evident too. Hence, this module also briefly explains the concepts of confidentiality, integrity and availability, as well as the mechanisms that provide security in various information systems and applications.

Next, this module focuses on the applications of information resource management technologies in enterprises and in Web 2.0-based e-commerce. First, the information architecture, strategies and services in enterprises will be introduced. Several cases on how information can be a strategic resource for companies will be studied. Second, several applications in Web 2.0-based e-commerce will be discussed in detail.

Last but not least, in view of the abundance of information nowadays, this module will encourage student discussions on the problem of finding the relevant “needle in the haystack” and the problem

...in, del...  
...management and capital allocation. In the practical sense, this course covers recent topics that are relevant to investment strategies and portfolio management. A project about portfolio management is specially designed so that students apply theoretical knowledge to practice.

**40511932 International Macroeconomic Theory and Policy 2credits 32hours**

This course is a field of international macroeconomics. The course develops a theoretical framework for the analysis of the determinants of international capital movements, trade imbalances, and nominal and real exchange rates. The theoretical framework is then used as the basis for the discussion of policy issues such as the emergence of the U.S. as the largest foreign debtor, global trade imbalances, developing-country debt crises, the European financial crisis, exchange-rate-based inflation stabilization, currency unions, debt default, balance-of-payment crises, and the effect of the great recession of 2008 on the world economy.

**40641963 Novel, History, Modernity 3credits 48hours**

The English novel has long been seen as a literary form both stimulated by and in turn stimulating modern capitalism, that form of economic life described by Max Weber as "labor in the service of a rational organization."  
...novel \$  
...and complicated relationship to capitalism, sometimes seeming to supply narratives that supported  
...Weber outlined, ...

line... completing the... students... for understanding... way  
th... in... era...  
3. THE JUDICIAL SYSTEM

This chapter will introduce students to the U.S. judicial system. Particular attention will be paid to the federal court system laid out in Article III of the U.S. Constitution. After completing this chapter, students should be able to discuss the basic structure of the U.S. judicial system, as well as the able to reference and describe key mechanisms that allow the judicial system to function.

#### 4. LEGAL METHODOLOGY

This chapter will introduce students to important methodological concepts that underlie legal thought in the United State. Particular attention will be paid to the types of reasoning methods used in legal education and practice. After completing this chapter, students should be able to discuss the various schools of thought regarding how best to deal with legal problems, and which of those schools of thought are the most popular in the U.S. legal community.

#### **40661493 Legal Reasoning 3credits 48hours**

The Legal Reasoning Course will teach students to identify, predict, and apply legal rules and principles using legal reasoning and critical thinking skills found in common law systems in order to teach students “how to think like a lawyer.” The course will focus on the U.S. Legal System and will include an introduction to the many sources of law in the United States, including case law. Techniques of case and statutory analysis are featured, along with the impact of social, economic, historical, and jurisprudential factors on the development of the law over time. Students will learn how to identify legal issues presented by specific cases, analyze a legal problem, determine the relevant legal rules and apply those rules to specific facts to arrive at a reasonable conclusion in a specific case. This course will be taught in English.

#### **40661512 Comparative Corporate Governance(in English) 2credits 32hours**

This course is designed to familiarize students with company and securities laws and underlying policies in China, with an emphasis on the corporate governance structure of publicly-held companies. The course focuses on important governance issues such as controlling shareholders, board of directors, affiliated transactions, domestic and cross-border takeovers. To this end, it also covers securities and investment regulations, such as listing requirements, mandatory disclosure and foreign investment restrictions in the country.

In the beginning of the class, an overview of the regulatory framework and market conditions in Mainland China will be conducted. The other part of the class will be divided into the following units, each in three or four hours: I. Controlling Shareholders, Related-Party Transactions and

#### **40661773 Foundations of Common Law(3) 3credits 48hours**

This course aims to introduce students to judicial interpretation of some of the amendments to the United States Constitution that establish many of the very important standards for U.S. federal criminal procedure and state criminal procedure. Throughout this course, students learn to explore the text of the Fourth Amendment, the Fifth Amendment, and the Sixth Amendment as well as their relationship with the everyday exercise of federal and state police power that affects the life of many individuals in the United States.

#### **40661783 Foundations of Common Law(4) 3credits 48hours**

This course is essentially designed for junior and senior undergraduate students, who will be introduced to the essential contents of US torts law, i.e.. the subject components of torts (intention and negligence), contributory negligence, causation, damages, to various forms of tortious offenses and the determination of damages, as well as possible defenses thereof. This course mainly consists of the following chapters: introduction, intention (mens rea), negligence, strict liability, product liability, nuisance and trespass, ^bjes,

logical results. The second part of the course gives an overview of the philosophical approaches, provides concrete examples of a number of phenomena, and discusses the philosophical background as well as some methodological assumptions.

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**30690562 First-Order Logic 2credits 32hours**

The course gives an overview of classical meta-logical results, in particular, Gödel's completeness and incompleteness theorems, Church-Turing's proof of the undecidability of first-order logic, and Tarski's theorem on the undefinability of truth. After a recapitulation of the syntax and semantics of first-order logic, Henkin's proof of completeness, in terms of syntactic models and maximal consistent sets, is presented. Philosophical and logical consequences of the result and its proof are discussed, with some glimpses from model theory. The course then presents the notions of complete and incomplete theories, as well as decidability of theories. After an overview of

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the philosophical and mathematical background in the early 20th century, including Hilbert's Program, the incompleteness theorems and related results, and the ideas behind their proofs, are presented at an informal level.

The remainder of the course fills in some of the details.

The course presentation focuses on important concepts and ideas, philosophical as well as mathematical, but also gives pointers to the technical details.

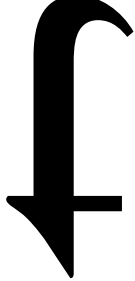
**30690562 Modal Logic and its Applications 2credits 32hours**

A survey class of modern logic in the tradition of the Italian school of logic, with a focus on the

, Zhuangzi , an







must be met for nuclear fusion, how do planets form, what determines the size and composition of planets, how can we detect exoplanets, when is a planet system stable. The aim of this course is to understand the fundamental properties of stars and planets from elementary physical principles. This course is organized according to several modules:

1. Introduction to key Astronomy concepts
2. Matter under astrophysical conditions
3. Planet and stellar Birth
4. Planet and stellar Evolution and Death
5. Planet and stellar Atmospheres
6. Planet and stellar Dynamics

Student participation and problem sets play an instrumental part throughout the course. The classical instruction will be further supplemented by presentations and a report from students on a topic of their choosing related to the field of stars and planets.

**01510701 Introduction to Project Management and Innovative Product Development 1credits 16hours**

The course introduces a key concepts of project management, innovation management and product development, and supports students to participate effectively in the creation and realization of business opportunities. Combining business and technology aspects in one program, students will focus on finding new business solutions using applicable innovative technologies.

Students will be able to gain knowledge

...age in su... works and ... the central implications (philosophical, social, and cultural nuances) of suc...  
And b... ch... at... to... cate the ... of writing. The course ... at a critical and analytical  
approach to the study of English literature, and through this approach introducing students to an appreciative  
understanding of English literature.

**14700103 Guided Reading of Literary Works: Modern Fiction 3credits 48hours**

Novels are not just storytelling. The structure of the novel is a mode of thinking. The novel is the most basic expression of the people's mind. It is also the tradition of oral inheritance at the beginning of human civilization and history, followed by writing. Therefore, understanding the novel is to understand the human nature and the logic of thinking, as well as the origin of civilization and history.

**14720031 Oxford Humanities Tutorial Course 1credits 16hours**

This course is an ... introducing the Oxford tutorial class mode into Tsinghua's Rūn college. Students are to be divided into several groups. Each group is for ... b... lusively ... by one tutor and two students. These individual classrooms are design\_ to be student-centered. Students propose the fields and topics that they want to study and ca ... Oxford ... are locatd correspondingly. Reading materials offered in the class are funda ... in their respective areas. Classes are held mainly in the for ... of discussion while teaching will be adjustd when\_er n\_essary. Students are requestd to write two essays by the end of the course as well as one reading report each week. Tutors will diagnose these essays carefully. Each student will be given a written-report reviewing their ... and ... by the end of the course.

Tutors

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**44720032 Summ English Training 2credits 32hours**

This course is supportd by the Rūn Collge and a\$ to train the first-year student in the college to read and write English teos in a critical way. In surrounding a thematic writing (Disease and Health), this course will equip student with ca ... of writing a critical ... of standard academic English.

**14760013 Physics-1 3credits 48hours**

This course will cover ... heat, optics, special relativity, waves, fluid and electromagn\_ism.

**34760023 Topology 3credits 48hours**

This course discusses point set topology and introductory algebraic topology. Point set topology covers: topological space, continuous ... subspace, quotient space, ... space, connectedn\_s, compactn\_s, count\_bility, ... space, ... space\_c. Introductory algebraic topology covers: path space, funda group, ho ... invariance, Seifert-Van Ka ... Th\_rem, covering space, classification of surfaces, basic ho ... theory\_c.

Hausdorff

**34760083 Physics-2 3credits 48hours**

Physics-2 is a continuation of Physics-1, and will cover basic conce ... of therodyna ... light and optics, and physics.

**44760012 Seminar in Algebra and Number Theory 2credits 32hours**

This is a se ... course, discussing i ... develo ... and frontier research topics in algebra and nu theory. ... syllabus ... vary, according to the design of each course instructor.

PHYSICS 3033 P  
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