

## Sino-Finnish Centre Courses 2014-2015 (First Semester)



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## **1、 Brief Introduction to Sino-Finnish Centre**

Sino-Finnish Centre (SFC), Tongji University is a strategic cooperation platform between Tongji University, China and Aalto University, Finland, serving as an international interdisciplinary open platform and a creative meeting point for education and innovation. It aims to combine Science, Engineering, Art, Design and Business together, and build bridges between universities and industries, governments, NGOs, etc. It always puts students first, offers a space for creative learning, knowhow for learning by doing, learning by travelling, project-based learning, experiences based learning as well as passion-based learning.

SFC provides brand-new experiences of Cross-cultural and Inter-disciplinary activities for students. SFC courses and workshops have close connections with different disciplines, ranging from product design, innovation, sustainability and urban planning to economics and management. We believe that the interaction between students, companies and scholars will bring about amazing result.

SFC will enthusiastically collaborate with each other and excellent scholars and future elites from key collaborative universities! For us, the cooperation with world-top companies, organizations and scholars forms an essential part of SFC.

SFC brings most innovative companies into classroom and conducts workshops together with students;

Students can get unique course experience and get ready for their future career from SFC courses;

You will become different when you leave!

## 2. Course Description

### 1) Course List

2014-2015 (First Semester)			
No.	Course Name	Course Type	Time & Venue
1	Exploitation of Intellectual Property Rights (IPR)	Compulsory Course of Tongji Innovation and Venture Minor Program (2014 Pilot)	Thursday 15:30-17:00 (SFC stage)
2	Management of a High-tech and Design Venture	Compulsory Course of Tongji Innovation and Venture Minor Program (2014 Pilot)	Thursday 18:30-20:00 (SFC stage)
3	Orientation to International Design Business Management	Compulsory Course of Tongji Innovation and Venture Minor Program (2014 Pilot)	Monday & Wednesday & Friday 13:00-15:00 Oct. 13 <sup>th</sup> -24 <sup>th</sup> (SFC backstage)
4	Bottom up Enterprise-Building Business with Open Innovation	Compulsory Course of Tongji Innovation and Venture Minor Program (2014 Pilot)	Monday 18:30-20:00 (SFC stage)
5	Introduction to Product Design and Innovation	General elective course	Wednesday 15:30-17:00 (SFC backstage)
6	Tools and Methods of Product Design and Innovation	General elective course	Tuesday 15:30-17:00 (SFC backstage)
7	I & V Talks	General elective course	Tuesday 18:30-20:00 (SFC stage)
8	Modern Project Management Techniques	General elective course	Wednesday 18:30-20:00 (SFC backstage)
9	Sustainable Design Strategy Workshop-Sustainability Thinking	General elective course	Every Wednesday 18:00-21:00 (SFC studio)
10	DIAN Racing	General elective course	Every Monday 15:30-17:00 (Room 210, New Energy Automotive Engineering Center, Jiading Campus) Every Thursday 15:30-17:00 (SFC studio)
11	Eco-Innovation: Entrepreneurship via Blue Economy Business Model	General elective course	Saturday 09:00-17:00 detailed arrangement below (SFC studio)

12	Mission D (Pilot Fall Semester)	General elective course	Monday 15:30-17:00 (SFC stage)
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**Remarks**

1. If you are interested, please send email to [jiangdan@tongji.edu.cn](mailto:jiangdan@tongji.edu.cn) before **Sept. 21<sup>st</sup>**:
  - “Application for SFC courses” in subject;
  - Personal information (including name, major, student number, exchange or double degree, study period in Tongji, home university, telephone number and course selected) in body;
  - Copy of your admission letter from Tongji University as attachment.
2. Please come to SFC course introduction on **Sept. 16<sup>th</sup> (Tuesday)**, starting from **18:30 in SFC stage**.
3. If you have any question, please contact:
  - Dan, +86 21 65987507, [jiangdan@tongji.edu.cn](mailto:jiangdan@tongji.edu.cn)
4. For more information, please follow Sino-Finnish Centre:
  - Official website: [sfc.tongji.edu.cn](http://sfc.tongji.edu.cn)
  - Official weChat: @sfctongji

## 2). Course Description

### **Exploitation of Intellectual Property Rights (IPR)**

This course provides the participants understanding of intellectual property rights and how to exploit IPRs in a global business environment. Special attention is given to the international and venture issues. The course provides understanding of contract law and its use in transferring IPRs.

#### **Mentor**

Prof. Timo Nyberg, Aalto University

Dr. Zhang Taolue, Tongji University

#### **Course Content**

Topics include the key issues of success and relevant skills needed to manage intellectual property and innovation at both strategic and operational levels. The course provides examples based on real-world experiences of SMEs and leading international firms.

Intellectual property rights and innovation are some of the most important aspects of modern global business. Innovation is the fundamental driver of competitiveness. Innovations are transformed into profitable businesses through exploiting intellectual property rights (IPR). Technological invention and innovation is uncertain and risky but it can be managed. The IPRs are used in a very different way in small and large companies. For success it is important to understand the strategies, tools and techniques for managing IPR and innovation.

#### **Passing Requirement**

Final presentation (group) & Participation (individual) & Feedback (individual)

**Course Credit**            4ECTS

**Course Language**        English

#### **Course Time**

Every Thursday 15:30-17:00, starting from Sept. 18<sup>th</sup>.

**Course Arrangement** (tentative)

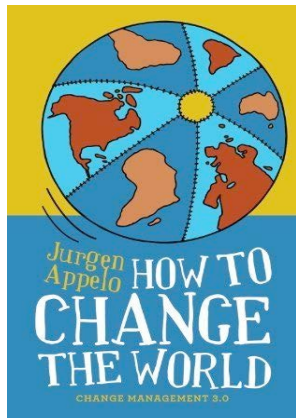
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<b>Date</b>	<b>#</b>	<b>Content</b>	<b>Lecturer</b>
<b>18.9.</b>	1	Intellectual property rights, contract law and legal English Introduction	Zhang Taolue and Timo Nyberg
<b>25.9.</b>	2	Introduction of Chinese legal system and IP system	Zhang Taolue
<b>2.10.</b>		National Holiday No Lecture	-
<b>9.10.</b>	3	Intellectual property strategy in global venture companies	Timo Nyberg Zhang Taolue
<b>16.10.</b>	4	Trade secret protection and use in business	Zhang Taolue Timo Nyberg
<b>23.10.</b>	5	Patent protection and use in business	Zhang Taolue Timo Nyberg
<b>30.10.</b>	6	Trademark protection and use in business	Zhang Taolue Timo Nyberg
<b>6.11.</b>	7	Copyright protection and use in business	Zhang Taolue Timo Nyberg
<b>13.11.</b>	8	Design protection and use in business	Zhang Taolue Timo Nyberg
<b>20.11.</b>	9	Intellectual property strategy in global venture companies cont. & assignment	Timo Nyberg
<b>27.11.</b>	10	Overview of Chinese IP law and development trends	Zhang Liguao Zhang Taolue
<b>4.12.</b>	11	Contract law and use in business	Zhang Taolue Timo Nyberg
<b>11.12.</b>	12	Business cases, company presentations	Visiting lecturers Zhang, Nyberg
<b>18.12.</b>	13	IP Law in China: China as a norm giver or taker University innovations and IPRs	Niklas Bruun
<b>25.12.</b>	14	Christmas No Lecture	-
<b>1.1.</b>		New Year Holiday No Lecture	-
<b>8.1.</b>	15	Assignment presentations by students	Zhang Taolue and Timo Nyberg



## Management of a High-tech and Design Venture

Interested in managing ICT ventures? Want to free your mind from management pre/misconceptions? The objective of this course is to provide a holistic picture of what managers of high technology and design firms need to consider at their work.



### Mentor

Prof. Timo Nyberg, Aalto University

Dr. Ma Rufei, Tongji University

Dr. Pan Xuan, Tongji University

### Course Content

The focus of the course is on high tech and design venture management. This course covers ICT trends, business models, business ecosystems and platforms, industry evolution and market dynamics, and case studies of high technology firms.

### Passing Requirement

Final presentation (group) & Participation (individual) & Feedback (individual)

Course Credit 4ECTS

Course Language English

### Course Time

Every Thursday 18:30-20:00, starting from Sept. 18<sup>th</sup>.

Course Arrangement (tentative)

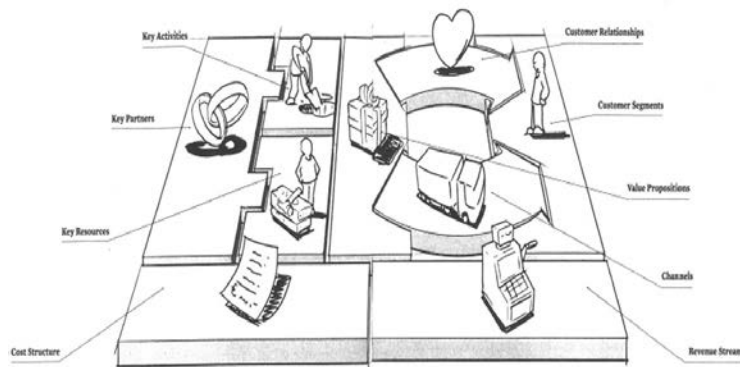
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Date	#	Content	Lecturer
18.9.	1	What are high tech and design ventures? Introduction Customer development engineering and the lean startup (four steps)	Timo Nyberg, Ma Rufei, Pan Xuan, Su Taoyong
25.9.	2	Customer discovery (Step 1) Assignment arrangements (groups): Students from Aalto and Tongji work together to develop creative apps for the China market (Problem and product concept hypothesis development and testing, Positioning, etc.)	Ma Rufei Timo Nyberg
2.10.		National Holiday No Lecture	-
9.10.	3	Business ecosystems and platforms, Venture companies, and Management	Timo Nyberg Ma Rufei
16.10.	4	Customer validation (Step 2)	Ma Rufei Timo Nyber
23.10.	5	Case studies of high tech and design firms (Positioning, Deeply understanding Chinese customers)	Ma Rufei, Timo Nyberg
30.10.	6	Customer creation (Step 3)	Visiting lecturers Rufei, Nyberg
6.11.	7	Entrepreneur education Feedback from the students	Su Taoyong Ma Rufei
13.11.	8	Industry evolution and market dynamics	Su Taoyong
20.11.	9	Funding a venture, company cases	Pan Xuan Company visitor
27.11.	10	Socialstructuring in business and ICT trends	Timo Nyberg Pan Xuan
4.12.	11	Company founding(Step 4)	Visiting lecturers Rufei, Nyberg
11.12.	12	Case studies of high tech and design firms How to establish a company (China, Europa, USA)	Visiting lecturers Rufei, Nyberg
18.12.	13	Intellectual property and Venture companies	Niklas Bruun
25.12.	14	Christmas, No Lecture	-
1.1.		New Year Holiday, No Lecture	-
8.1.	15	Final Assignment presentations by the students	Timo Nyberg, Ma Rufei, Pan Xuan, Su Taoyong

## Orientation to International Design Business Management

Global competition has placed pressure on business to innovate in a way that creates economic value, but also meets social and economic needs. To meet this demand, the world needs holistic innovators who incorporate various disciplinary perspectives (IDBM thinking process).



**Mentor** Daniel Graff

### Course Content

The IDBM Thinking Orientation course introduces a holistic approach to innovation. In this course theories and practices related to IDBM core concepts from management, design and technology will be introduced. This will involve acquiring of basic practices (e.g. research methods), cognitive approaches (e.g. creative thinking techniques), and mentalities (e.g. risk taking behavior).

This course teaches the IDBM thinking approach to innovation. Students will be placed in multidisciplinary teams to identify problem and develop an innovative solution through the IDBM approach. Students will receive training in each of the various stages of IDBM thinking. Timing of skill training will coincide with the progression of student projects (be aware that this is an iterative process). As their final output, student teams will submit a prototype of a proposed solution to a real-world problem, as well as a plan to bring the concept into reality. Taking part in this course, students will

1. Master the IDBM thinking process: a holistic process for innovation, combining human desirability, technological feasibility, and business viability.
2. Develop as a T-shaped person: work in multidisciplinary teams to get a better understanding of various disciplines; so called “T-shaped” individuals.
3. Create an innovation: work in multidisciplinary teams to create a product or service that provides value for all level (individual, organizational, and societal).

### Passing Requirement

Mid-term presentation (team)	20%
Process failure (team)	10%
Final presentation (team)	30%
Reflection (individual)	30%
Class participation (individual)	10%

**Course Credit** 4ECTS

**Course Language** English

### Course Time

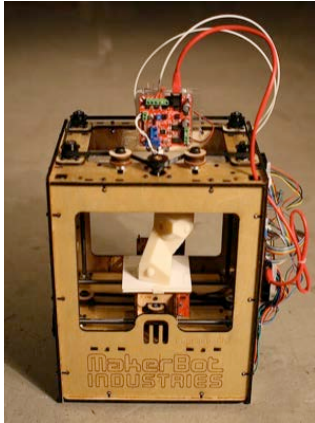
Every Monday & Wednesday & Friday 13:00-15:00, from Oct. 13<sup>th</sup>-24<sup>th</sup>

### Course Arrangement (tentative)

Date & Place	Topic	Reading
Monday 13th of October, 13:00-15:00 Tongji Design Factory	<b>Introduction to IDBM Thinking</b> <ul style="list-style-type: none"> <li>• What is it?</li> <li>• Why should we care?</li> <li>• How does it work?</li> </ul>	<ul style="list-style-type: none"> <li>• Hassi, &amp; Laakso (2011). Making Sense of Design Thinking. In T.M. Karjalainen, M. Korja, &amp; M. Salimäki (eds.) IDBM papers vol1. IDBM Program, Aalto University: Helsinki.</li> <li>• Gosling &amp; Mintzberg (2003). The Five Minds of a Manager. Harvard Business Review, 54-63.</li> </ul>
Wednesday 15th of October, 13:00-15:00 Tongji Design Factory	<b>Project Planning &amp; Research</b> <ul style="list-style-type: none"> <li>• Identify the user community and a problem</li> <li>• Develop a research plan</li> </ul>	<ul style="list-style-type: none"> <li>• Verganti (2011). Designing Breakthrough Products. Harvard Business Review, 114-120.</li> <li>• Leonard, &amp; Rayport (1997). Spark Innovation Through Empathic Design, Harvard Business Review, 102-113.</li> </ul>
Friday 17th of October, 13:00-15:00 Tongji Design Factory	<b>Ideation</b> <ul style="list-style-type: none"> <li>• How to be creative</li> </ul>	<ul style="list-style-type: none"> <li>• Bettencourt &amp; Ulwick (2008). The customer-centered innovation map. Harvard Business Review, 109-114.</li> </ul>
Monday 20th of October, 13:00-15:00 Tongji Design Factory	<b>Concept Development &amp; Testing</b> <ul style="list-style-type: none"> <li>• How to run and test an experiment</li> </ul>	<ul style="list-style-type: none"> <li>• Davenport (2009). How to design smart business experiments. Harvard Business Review. 68-76.</li> </ul>
Wednesday 22nd of October, 13:00-15:00 Tongji Design Factory	<b>Business Model and communication</b> <ul style="list-style-type: none"> <li>• Business model generation</li> <li>• Story telling</li> </ul>	<ul style="list-style-type: none"> <li>• Osterwalder &amp; Pigneur (2010). Canvas, Chapter 1 in Osterwalder &amp; Pigneur Business Model Generation. Wiley: New Jersey.</li> <li>• Shaw, Brown, &amp; Bromiley (1998). Strategic Stories: How 3M Is Rewriting Business Planning. Harvard Business Review, 41-50.</li> </ul>
Friday 24th of October, 13:00-15:00 Tongji Design Factory	<b>Final Presentation &amp; Feedback</b>	

## Bottom up enterprise - building business with open innovation

Open innovation has recently come to the attention of the industrial with the success of open source software and recently popularity of open source hardware. On top of this, the reforming of copyright and patent laws has also been a hot topic in the past decade.



### Mentor

David Li, Innovative Supervisor of Sino-Finnish Centre; Co-founder of XinCheJian

### Course Content

In this course, we will examine what open innovation is, review the history of open source software, and look at the maker movement and open source hardware and discussion of open design.

### Passing Requirement

Final presentation & Class performance

Course Credit            4ECTS

Course Language        English

### Books and Materials

- Eric von Hippel - democratize innovation
- Chris Anderson – Makers
- Selected essays of Lawrence Lessig
- Books and selected article on Shanzhai

### Course Time

Every Monday 18:30-20:00, starting from Sept. 15<sup>th</sup>.

### Course Arrangement (tentative)

- 15.9.&22.9.    What is open innovation? How does open innovation works?
- 28.9.&29.9.    What is open source software? History and evolution.
- 13.10.            Guest lecture - running an open source software company.

- 20.10.&27.10. Maker movement and open source hardware.
- 3.11.&10.11. Shanzhai: open source with Chinese characteristic.
- 17.11. Guest lecture - running an open source hardware company
- 24.11. Guest lecture - copyright and patent lawyer
- 1.12.&8.12. Copyright, patent and reform: history of copyright and patent and recently history of reform
- 15.12. Field trip visiting to Shanzhai market
- 22.12.&29.12. Open design - what's the trend in open design?
- 5.1. Business model in open innovation world

## Introduction to Product Design and Innovation

**Mentor** Matti Hamalainen

### Course Content

This course is about Product development THEORY, which will give detailed information about planning and management of the innovation process.

### Passing Requirement

Final Exam & Class Attendance

**Course Credit** 4ECTS

**Course Language** English

### Course Book

Ulrich & Eppinger: Product Design and Development

### Course Time

Every Wednesday 15:30-17:00, starting from Sept. 17<sup>th</sup>.

### Course Dates

17.9. 24.9.

15.10. 22.10. 29.10.

5.11. 12.11. 19.11. 26.11.

3.12. 10.12. 17.12.

## **Tools and Methods of Product Design and Innovation**

**Mentor** Matti Hamalainen

### **Course Content**

During this course, the students will become familiar with the most essential tools, methods, and techniques of systematic product innovation. The students will complete 8 exercises, during which they will learn to understand the basic nature of several generative and analytical approaches.

### **Passing Requirement**

Participation and documentation of at least 6 exercises and PD6-workshop.

**Course Credit** 4ECTS

**Course Language** English

### **Course Time**

Every Tuesday 15:30-17:00, starting from Sept. 16<sup>th</sup>.

### **Course Arrangement** (tentative)

- 16.9. Introduction + warm-ups
- 23.9. Idea generation techniques 1
- 30.9. Idea generation techniques 2
- 11.10. Concept screening & selection 1
- 14.10. Concept screening & selection 2
- 18.10. PD 6
- 21.10. Foresight
- 28.10. Understanding customer needs



## I & V Talks



### Course Content

This course will invite experts, scholars and professionals from companies to give hot speeches on current fields of innovation and venture programs. It will provide basic knowledge and practice ideas on innovation and venture, problems as well as solutions occurred during the teaching of basic knowledge and practice period. It will enable students to grasp basic knowledge and cultivate students' interest.

### Passing Requirement

In-class Q&A is required. In order to pass the course, class attendance, in-class discussion and feedback (including your own ideas on certain topic) are important segments.

### Course Time

Every Tuesday 18:30-20:00, starting from Sept. 16<sup>th</sup>.

(The lecture content will be forwarded through WeChat, and will also be updated on SFC official website [sfc.tongji.edu.cn](http://sfc.tongji.edu.cn))

Course Credit 4ECTS

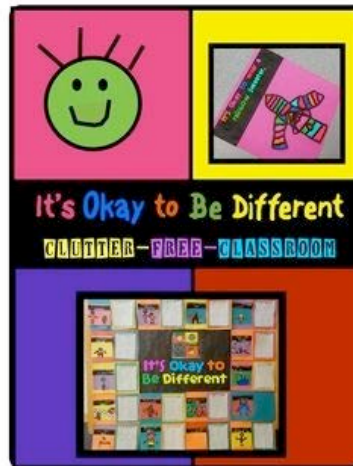
Course Language English

### Course Dates

16.9.	23.9.	30.9.		
11.10.	14.10.	21.10.	28.10.	
4.11.	11.11.	18.11.	25.11.	
2.12.	9.12.	16.12.	23.12.	30.12.

## Modern Project Management Techniques

You wanna know how to develop project plans, establish project organization and staffing, define management functions, develop time management approaches, resolve project conflicts, determine project effectiveness, implement integrated project management techniques, perform pricing and cost estimating, establish cost control, set priorities, and perform tradeoff analyses? Please join us!



### Mentor

Xu Wenying, Associate Researcher, College of Environmental Science and Engineering, Tongji

### Course Content

This course is designed to inform the student of the key elements of an integrated approach to project management that requires expertise in scientific, engineering, legal, public policy, and project management disciplines. The focus of the course is on the tools and techniques for implementing project management processes. Its theme is one of optimization, in terms of the amount of money, time, energy and other resources expended in completing these projects.

Multiple teaching methods will be used to march the teaching content, integrating theoretical studies with practices. Various evaluation methods will be adopted considering students' thinking skills, learning attitudes, team spirit and attendance. The course will be delivered in English.

The students' performance will be evaluated through one class test, a home assignment, a group presentation and attendance.

### Passing Requirement

Final Presentation

Course Credit 4ECTS

Course Language English

### Books and Materials

- 徐文英, Environmental remediation project planning and management, 科学出版社, 2010.
- Michael Dobson, Creative project management, McGraw-Hill, 1 edition, 2010.
- J. Shenhar Aaron, Dvir Dov, Reinventing Project Management: The diamond approach to successful growth & innovation, Harvard Business Review Press, 1 edition, 2007.
- Kerzner, H., Project management: a system's approach to planning, scheduling, and controlling, Jilin Changbai Mountains Press, 2000.
- Meredith, J.R. and Mantel, J.R., Project management: a managerial approach, 5th edition, John Wiley & Sons, New York, 2003.

### Course Time

Every Wednesday 18:30-20:00, starting from Sept. 17<sup>th</sup>.

### Course Arrangement (tentative)

- 17.9. General project management concepts and project life circle;
- 24.9. Reviewing request for proposal
- 8.10. Assembling project teams
- 15.10. Developing a work breakdown structure
- 22.10. Diagramming/scheduling
- 29.10. Cost estimating
- 5.11. Earned value analysis
- 12.11. Class exercise on earned value analysis and graphical earned value analysis
- 19.11. Test on earned value analysis and graphical earned value analysis
- 26.11. Advanced project planning and risk management
- 3.12. The butterfly effect: learn to extrapolate previously unforeseen ramifications of their decisions
- 10.12. Managing the potential catastrophe
- 17.12. Scenario 1: the "or else" product launch; scenario 2: political dilemma
- 24.12. Cross culture and its impact on project management
- 31.12. Implementing modern project management
- 7.1. Group presentation of homework, peer review and marking

## Sustainable Design Strategy Workshop -Sustainability Thinking



**Mentor** Godert van Hardenbroek

### Course Content

The objectives of this course are to shift the perspective of students to the bigger picture of sustainability and provide tools to apply this perspective in design. Ultimately, this will result in students that are (more) intrinsically motivated to contribute to sustainability, have knowledge of the basics of sustainability and an understanding of how to create sustainable behavior. The module course will be focused on developing and promoting sustainable life styles.

The assignment part of the courses has to do with behavioral change. Zooming back in from the astronaut's perspective, students make an analysis of their own daily lives and their ecological impact. Using the back casting process, they create a compelling vision of success and potential actions. Based on their own interests they have to design a product, service about sustainable lifestyles,

After the course Sustainability thinking, students are (more) intrinsically motivated to

contribute to sustainability and have:

- Mastered the Natural Step framework;
- Worked through the principle of back casting;
- Been introduced to:
  1. The development and barriers facing the electric car
  2. Sustainable Business Concepts
  3. Cradle to Cradle
- Design their own sustainable lifestyle concept.

#### Passing Requirement

Final Presentation

Course Credit            4ECTS

Course Language        English

#### Course Time

Every Wednesday 18:00-21:00, starting from Sept. 17<sup>th</sup>.

## **Dian Racing**

DIAN Racing is the Formula Student Electric team of Tongji University. Learning by doing; the objective of the course is to design and build an electric racecar and participate in the Formula Student Germany (FSG) competition and in the Formula Student China (FSC) competition.



**Mentor** Godert van Hardenbroek

### **Course Content**

Formula Student Electric (FSE)

Formula Student is an international student engineering competition that has different classes including Internal Combustion Engines and Electric propulsion. With 70 combustion engine teams and 40 electric teams participating from all over the world, FSG is the highest level of competition of its kind. Preparing for, and taking part in this competition will provide participating students an unforgettable learning experience. Multinational (car) companies highly value FSE experience evaluating new recruits.

### **Multidisciplinary collaboration**

Dian Racing is a Tongji University wide collaboration between different parts of the university. Working together with students from a variety of university backgrounds creates a strong learning experience. The team consists of three groups;

Engineering team (based in Jiading campus):

- Responsible for the vehicle's engineering design, production, testing and running.
- Based in Jiading Campus, the team has a strong technological and practical focus.
- The team members collaborate in teams working on sub-sections of the car
- Collaboration with technical Sponsors is an important part of the work

- Innovation is core to the team's spirit because of the characteristics of New Energy Vehicles.

Management team (Based in Jiading campus):

- Responsible for finance, Human Resources and planning.
- Based in Jiading campus, the team maintains close ties with School of Automotive Studies and the Clean Energy Automotive Engineering Centre.

Commerce team:

- Responsible for Sponsorship acquisition, Branding, Public Relations...
- The commerce team is based in Siping Campus at the Sino-Finnish Centre, with a support crew in Jiading campus. Part of the learning is to collaborate with team members from other faculties.
- The team has a strong business, communications and design focus; for instance the website [www.dianracing.com](http://www.dianracing.com) is run by this team and so art he weibo and renren account of the team. Other activities include; brochure development and design, poster design etc.
- The team organizes the annual design competition to determine the look of the car, in collaboration with the college of D&I.
- Redesign the vehicle based on last year's learning.
- Create media and sponsorship materials based on images from last year's vehicle and activities.
- Find new sponsors for the 2015 car.

#### Passing Requirement

- Effort invested in the team by the student;
- Contribution to the success of the team.

#### Prerequisite

DIAN Racing is a multidisciplinary team with a wide range of roles. Students with a wide range of backgrounds are welcome to contribute, as long as you are willing to put in strong effort. For the Engineering team, members can come from: Automotive Engineering, Electrical Engineering, Mechanical Engineering, Software Engineering, etc. For the Management & Commerce team, members can come from: Design and Innovation, Economics, Management, but also Engineers with an interest in organizational aspects and contribute to the team.



**Course Credit**            4 ECTS

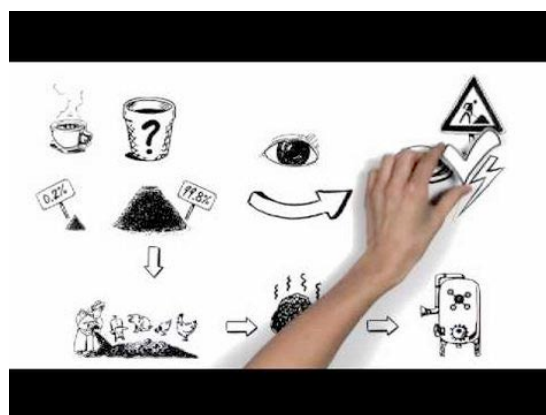
**Course Language**        English

**Course Time**

Every Monday 15:30-17:00 (Jiading Campus), starting from Sept. 15th.

Every Thursday 15:30-17:00 (Siping Campus), starting from Sept. 18<sup>th</sup>.

## Eco-Innovation: Entrepreneurship via Blue Economy business model



### Mentor

Cheng Yi-Heng, Guest Professor of Tongji University

### Course Content

Purpose of the course is to guide students to plan and materialize eco-projects by adopting successful cases published in Blue Economy; students from various disciplines will be grouped under selected project, apply what they can, understand and enjoy team work with community objectives; students will be trained to become entrepreneur with the know-how of objective setting, business planning and fund raising.

### Passing Requirement

Project participation & Presentation & Oral discussion

Course Credit 4ECTS

Course Language English

### Books and Materials

- “Limit to Growth”, Meadows et. al.
- “Nutzen wir die Erde richtig?” in English “Natural Resources and Human Intervention-The Sustainability Project”, Friedrich Schmidt-Bleek

- “Faktor 5” in English ”Factor 5”, Ernst von Weizsaecker
- “Blue Economy’, Gunter Pauli
- “2052 – A global forecast for the next 40 years”, Jorgen Randers

### Course Time

Saturday 09:00-12:00 & 14:00-17:00

### Course Arrangement (tentative)

20.9.

Limit of Growth: Understand our earth, main problems with economic growth;  
Courage to Sustainable Development: How to become sustainable, paradigm shift;  
Applying Resource Productivity: Definition, how to use and achieve continuous improvements.

27.9./ 18.10./ 25.10.

Breakthrough via Eco-innovation: Definition, case introduction;  
Introduction of Blue Economy Business Model: Cascade process, Multiple cash-flow;  
Practice of Blue Economy Business Model (by Daniel Zhu): Doing more with what you have, imaging what does not exist, substituting something with nothing.

1.11./ 8.11./ 15.11./ 22.11.

Project Grouping (Idea Salon by Lynn King): Gift sharing, focusing, problem solving;  
Cases Selection 1 (100 cases): Case study, clustering, networking.

29.11.

Cases Selection 2 (100 cases): Case study, clustering, networking;  
Fund raising (by Daniel Zhu): Where, when and how;  
Project guiding and coaching 1: Urban farming (Principles and site visit, by Lynn King).

6.12.

Project guiding and coaching 2: Urban farming (Principles and site visit, by Lynn King);

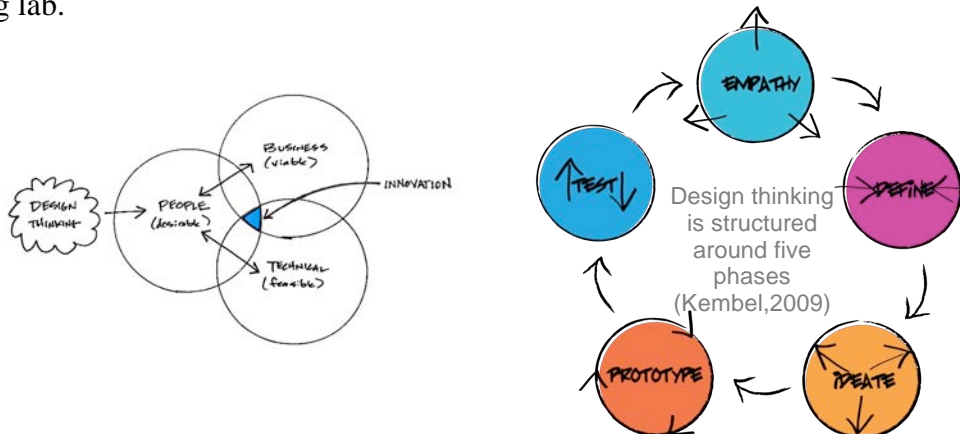
Project guiding and coaching: Social Entrepreneurship.

13.12./ 20.12./ 27.12.

Communication with specialists (via tele-conference or by invitation)

### Mission D (Pilot Fall Semester)

Keywords: Interdisciplinary, Innovative solutions for real problems, Design thinking, Living lab.



#### Mentor

- Academic Supervisor

Prof. Lou Yongqi, Executive Vice Director of Sino-Finnish Centre

- Course Moderator and Facilitator

Dr. Fan Fei

- Teaching Assistant

Miss Lu Zhou

#### Course Content

This course will introduce the idea and theory of design thinking, living lab, creative diversity, etc., as well as bring real projects to the students. Through the learning and practicing of design thinking theory, students will work in groups and put forward solutions and prototypes. After many times of prototyping and testing, you will finally achieve your best solution and innovation concepts.

Incorporating with the experience from SUGAR network ([sugar-network.org](http://sugar-network.org)), this course will develop a close relationship with Aalto University, Design Factory, St. Gallen University, d.school, etc. in order to provide an international platform for cooperation and exchange, as well as a multi-cultural visual angle.

This course will last for the whole academic year, i.e. fall semester and spring semester. You can choose to study for only one semester or the whole year according to your needs and arrangements.

### Passing Requirement

Prototyping & Class performance & Final presentation & Assignment & Self-evaluation and peer evaluation

Course Credit 6ECTS

Course Language English

### Course Time

Every Monday 15:30-17:00, starting from Sept. 15<sup>th</sup>.

### Course Arrangement (tentative)

Date	#	Content	Reference
15.9.	1	Mission D team intro. Warm-up game; What is Mission D? SFC space rule & access card application.	<a href="http://en.wikipedia.org/wiki/Pecha_aKucha">http://en.wikipedia.org/wiki/Pecha_aKucha</a>
22.9.	2	Design Thinking (Tim Brown/ David Kelly); Living Lab (ENoLL); Creative Diversity (CIC); Feedback on pre-course survey.	Where Good Ideas Come From/Steven Johnson/TED 2010; The Art of Innovation/ Guy Kawasaki/ TEDx Berkeley
28.9.	3	Teamwork experience from different games.	Bono, Edward De Six Thinking Hats, 2000, Penguin
29.9.	4	Video (Ken Robinson); Visual thinking; Mission D file kit; Presentation skills; Sketching games.	Changing education paradigms /Ken Robinson/TED 2010
13.10.	5	Observe- Engage- Immerse; IDEO method cards; Marimekko project case Intro.	IDEO, IDEO Method Cards, 2003, William Stout
20.10.	6	BM Canvas Generation	Osterwalder, Business Model Generation, 2010, Wiley.
27.10.	7	Business Model presentation; Benchmarking; Need finding; User personas/ customer journey.	Reference to be provided during the course
8.11./ 9.11.	8	Idea Roller Coaster (half day workshop on weekend)	Vijay Kumar, 101 Design thinking Methods, 2012, Wiley
10.11.	9	Critical prototype; Functional prototype.	Reference to be provided during the course
22.11./	10	Experiment Mixtape (d.school)	dschool experiment mixtape

23.11.		(half day workshop on weekend)	
24.11.	11	User research (with 5-10 prototypes)	Reference to be provided during the course
1.12.	12	Group presentation & peer evaluation; Dark horse.	Reference to be provided during the course
8.12.	13	Group presentation, demonstration	Reference to be provided during the course
15.12.	14	All missions kickoff; Company project brief; Official grouping; Financial details; File requirements.	Reference to be provided during the course
25.12.	15	Teamwork	Reference to be provided during the course
22.12.	16	Present outline & schedule; Peer evaluation; Travel proposals submit.	Reference to be provided during the course
Spring 2015 tentative schedule	17	New term (recruit new member); Review & warmup; Travel proposals confirm.	Reference to be provided during the course
	18	Projects meetings with teams separately, checklist: Desk & field research documentations; Projects plan updates & revision, incl. Global meeting agenda draft.	Reference to be provided during the course
	19- 30	Prototyping & testing one after another; Get-together lunch/ dinner/ company coach sessions (every 2 weeks).	Reference to be provided during the course
	31- 32	Final event abroad/ in Shanghai China & companies; Documentation file, final report, final prototype, exhibition preparation, etc.	Reference to be provided during the course
	33	Reflection & improvement.	Reference to be provided during the course

### 3. Address & Contact Information of SFC

#### Address

Aalto-Tongji Design Factory, 4th Floor, Shixun Building, No.100, Zhangwu Road,  
Yangpu District, Shanghai

#### Open Period

Monday-Friday, 9:00am- 9:00pm

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