ENGR 118  Impact of Culture on Engineering in China
Summer 2013 (May 06 – 30)

Click here for the program tentative itinerary for Summer 2013

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Course Number, Class Time, and Place:  ENGR 118 Impact of Culture on Engineering in China, travelling to various cities in China from May 06 - 30, 2013.

Office hours & location:  By appointment only

Course overview and objectives:

The course is to study engineering in the contexts of historical, cultural, societal, and environmental considerations to illustrate the relationship between Chinese culture and engineering-related projects and policies; The course will briefly introduce students to the basic scientific principles underlying their designs. This course is also designed to give students an overview of history, culture, society, and environment of China and their impacts on engineering. This will be done by studying some major engineering projects in China, such as the Three Gorges Dam, the Qinghai-Tibet Railway (with tracks built over permafrost and the highest in the world) in China, the Great Wall, the Dongtan Eco-city Project in Shanghai, etc. This course will be delivered in China for the Penn State students. Through guest speakers, field trips to some of the real engineering project sites, and some video documentaries, students will be integrated into the Chinese society to learn the topics and gain the first-hand knowledge of Chinese culture and traditions, and what roles they have played in engineering. Students will travel by air, train, cruise ship, and bus to experience the transportation systems in China. Students are required to document all the experiences they have and activities in which they participate while in China. By the end of the course, each student will be required to submit a term paper titled “The cultural impact on engineering in China”. This course will provide an example of the way in which engineering and engineering design can be affected by many factors and it can happen everywhere in the whole world.

A Brief Outline of the Course Content:

Introduction to the relationship between Chinese culture and engineering projects and policies in China. The course is delivered in China and exposes students to Chinese culture,
history, society, politics, and environmental considerations to provide direct links to and
demonstrations of engineering projects and policies related to structures, transportation,
manufacturing, and environmental management. Sites in China are selected to demonstrate and
illustrate how the local culture influences engineering applications. Lectures, documentaries,
readings, and guest presentations are used to prepare students for the site visits and observations
are documented by students.

A Listing of Major Topics to be covered:

The duration of the course in China is three to four weeks with daily relevant
preparatory material and activities, which depend on in-country travel logistics. Prior to
departure, students are expected to attend preparatory meetings and to review orientation
material. Readings on the history and culture of China are assigned and relevant online
information are provided before departure. The topics are covered in an integrated manner (i.e.,
site visits and pre- and post-visit assignments). As the lengths of stays in each location depend on
local conditions, the length of time that is spent on each major topic is variable.

1. Essential information and requirements for international travel to/from and within China, such
as documents and expected behavior, are presented early in the semester prior to departure.
2. Introduction to Chinese history, politics, and cultural issues.
3. Introduction to Chinese geography, and policies affecting natural resources and environment.
4. Chinese engineering innovations stemming from culture and history.
5. Demonstration and illustration of the impact of cultural components on the size and scope of
building projects.
6. Population policies and impact on engineering education, innovation, manufacturing, and
building.
7. Impact of climate, geography, economics, and population on transportation systems and
development of technologies.
8. The impact of Chinese culture on engineering globalization and collaboration.

Class Policies:

Punctual attendance is mandatory for all the class periods. Course grade will be dropped to
the next lower grade for every class missed. All excused absences must be supported by written
documentation.

Academic Integrity:

Senate Policy 49-20 Academic Integrity
Definition and expectations: Academic integrity is the pursuit of scholarly activity in an open,
honest and responsible manner. Academic integrity is a basic guiding principle for all
academic activity at The Pennsylvania State University, and all members of the University
community are expected to act in accordance with this principle. Consistent with this
expectation, the University's Code of Conduct states that all students should act with personal integrity, respect other students' dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts.

Academic integrity includes a commitment not to engage in or tolerate acts of falsification, misrepresentation or deception. Such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of work completed by others.

**The Penn State Principles:**
1. I will respect the dignity of all individuals within the Penn State community;
2. I will practice academic integrity;
3. I will demonstrate social and personal responsibility;
4. I will be responsible for my own academic progress and agree to comply with all University policies.

**Related sites:**
- Code of Conduct, [http://www.sa.psu.edu/ja/codeconduct.html](http://www.sa.psu.edu/ja/codeconduct.html)
- Academic integrity, [http://www.psu.edu/ufs/policies/47-00.html](http://www.psu.edu/ufs/policies/47-00.html) - 49-20

**Grading System:**

The final grade will be determined as follows:

1. Participation and appropriate behavior: 10%
2. Homework assignments and observation log: 20%
3. Presentations: 25%
4. Final exam: 15%
5. Final project and presentation: 30%

Total: 100%

Grades will be determined based your performance on the activities listed above. Final letter grades will be assigned as follows:

- > 93 = A; 90 - 93 = A-; 87 - 89 = B+; 83 - 86 = B; 80 - 82 = B-; 75 - 79 = C+; 70 - 74 = C;
- 60 - 69 = D; < 60 = F

Course inquiries: Xinli Wu, Ph.D., P.E.