

Class Syllabus

ENGR 4060

Technology in Northern Italy

May 5 to 18, 2008

Instructors:

Carol Jones, Ph.D., Assistant Professor, Biosystems and Agricultural Engineering
214 Ag Hall, (405)744-6667, jcarol@okstate.edu
John Nazemetz, Ph.D., P.E., Professor, Industrial Engineering and Management
322 Engineering North, (405)744-9137, nazemetz@okstate.edu

Course Objectives:

- Study historical and current engineering and technology in northern Italy
- Develop a familiarity with the general history, art and culture of northern Italy
- Become proficient in European travel skills.

The correlation of these objectives to ABET program outcomes follows.

Schedule:

A tentative schedule will follow. Coverage and schedule may be modified as required to meet the course objectives.

Journal:

Each student will be required to maintain an engineering style journal. Daily entries will be made in a bound journal of all relevant activities. Entries should include;

- Locations visited,
- Lecturers, their organization, synopsis of their presentation,
- Drawings of objects of interest,
- Travel notes for possible future use (such as restaurants visited and interesting locations),
- Questions for follow up, and a
- Log of pictures taken.

Activity Report:

Each student will be required to complete a short written report on how the trip correlates to one or more of the ABET outcomes. The specific topics will be assigned by the instructors at the start of class.

Pictures:

Each student must a camera with adequate film or digital media for 100 images. At the end of the class, students should provide the instructor copies of any digital images taken. If requested, students should provide copies of up to 12 film images.

Participation:

All students must attend all class activities, unless they are unable due to illness or personal hardship. Students will be responsible for being at appointed meeting places on time and prepared for the planned activities. Everyone is expected to participate in discussions, including being attentive during lectures and asking questions or making observations as appropriate. A

mandatory class meeting will be held most evenings after dinner, where the day's activities will be discussed and the next day's activities planned.

Conduct:

Your conduct both during class activities and personal time is important. You will be treated as professionals, and will be expected to conduct yourselves accordingly. We will expect you to:

- Be friendly and polite to the other members of the class and the staff in Italy,
- Act as a guest and be appreciative of our Italian hosts, and
- Avoid situations that may lead to hassles for the instructors and classmates.

Grading:

Grading will be based on a qualitative evaluation of your journal, activity report, pictures, participation and conduct.

Special Problems:

If you have any special problems, such as health or learning disabilities, please let the instructors know as soon as possible. Every reasonable effort will be made to make your learning experience reasonable and straightforward. The earlier you tell us about a problem, the more and better solutions we will have at our disposal.

All integrity issues will be dealt with in accordance with Oklahoma State University policy. See syllabus at: <http://academicintegrity.okstate.edu/doc/OSUAIHandbook.pdf>

Schedule

*This is a **tentative** schedule based the 2005 class. It indicates specific activities where possible and general plans elsewhere. Days and exact details are subject to change and minor events may be replaced entirely.*

May 8th: Arrival.

Students picked up at Venice airport or train station. In the afternoon a walk-about on Ca'Tron estate for all who have arrived.

May 9th : Ca'Tron.

Lecture by architects on renovation of Ca'Tron

Tour of Archivi Contemporanci

Tour of ICGEB, genetically modified organism (GMO) lab

May 10th: Manufacturing

Tour manufacturing plants

May 11th: Venice

Tour of San Marco

Tour of Doges' Palace.

Free time In Venice

Stop at Puntolaguna Visitor Center

May 12th: Venice Lagoon.

Board boat at Portogrande lock, at the north end of lagoon. Stop at salt marsh preservation and construction sites.

Stop at Burano Island

Boat to Lido Inlet construction

Stop at Murano Island and tour glass shop

Free time in Venice

May 13th: Manufacturing

Tour cheese factory

Tour manufacturing plant

May 14: Sunday free day.

Students allowed full day to use as they pleased. Travel to Venice, Padova and Verona feasible.

May 15th: Florence.

Eurostar to Florence

Walking tour of city center

Free time in Florence

May 16th Tuscany and Florence

Bus south through Tuscan hills

Tour Le Torri, olive oil and wine producer.

Tour Quadrifoglio, municipal waste processing plant with recycling and refuse to fuel.

May 17th: Florence.

Tour of Laurentian Library

Tour of History of Science Museum

Tour of Uffizzi Museum

Free time in Florence

May 18th: Bologna.

Lecture on Italian University system by Prof. Paolo Macini

Walking tour of U of Bologna campus followed by a tour of the city center including porticoed streets, Medici Library, and twin towers.

Free time in Bologna.

Return to Ca'Tron on last train.

May 19th: Food Engineering

Tour of restored 15th century water mill and wetlands nature preserve, Oasi di Cervara.

Tour of agricultural cooperative vegetable distribution center.

Tour of modern corn mill.

May 20th: Museo dela Bonifica

Tour *Museo dela Bonifica*.

Free time at Ca'Tron to pack

7:00 pm barbeque and class evaluations.

May 21st: Depart; drop-off at Venice airport or train station

ABET Program Outcomes

ABET requires each engineering program to define their respective student educational Outcomes. The following are the example Outcomes that most programs follow closely. Bulleted text indicates the relevance of ENGR 4060, Technology of Northern Italy to a specific Outcome.

- (a) an ability to apply knowledge of mathematics, science and engineering
- (b) an ability to design and conduct experiments, as well as to analyze and interpret data
- (c) an ability to design a system, component, or process to meet needs desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability
 - *This class contributes. A wide range of engineering systems are examined and social, economic, and environmental factors that influenced their design are explained.*
- (d) an ability to function on multi-disciplinary teams
 - *This class contributes. A continuous effort is required to both accommodate and contribute to the multi-disciplinary groups activities.*
- (e) an ability to identify, formulate and solve engineering problems
- (f) an understanding of professional and ethical responsibility
 - *This course contributes. Students will be required to conduct themselves in a professional manner throughout the course.*
- (g) an ability to communicate effectively
 - *This course contributes significantly. Not only will the student be graded on their written journals and participation in group discussions, but most importantly they will learn the communication skills required to travel in a foreign country.*
- (h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context
 - *This course contributes significantly. The course addresses the history, technology, art and culture of Northern Italy.*
- (i) a recognition of need and ability to engage in life-long learning
- (j) a knowledge of contemporary issues
 - *This course contributes significantly. By studying the similarities and differences in how technology is and has been applied in Italy, the student will gain a better perspective of engineering's societal impacts.*
- (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice