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May 16-28 2007

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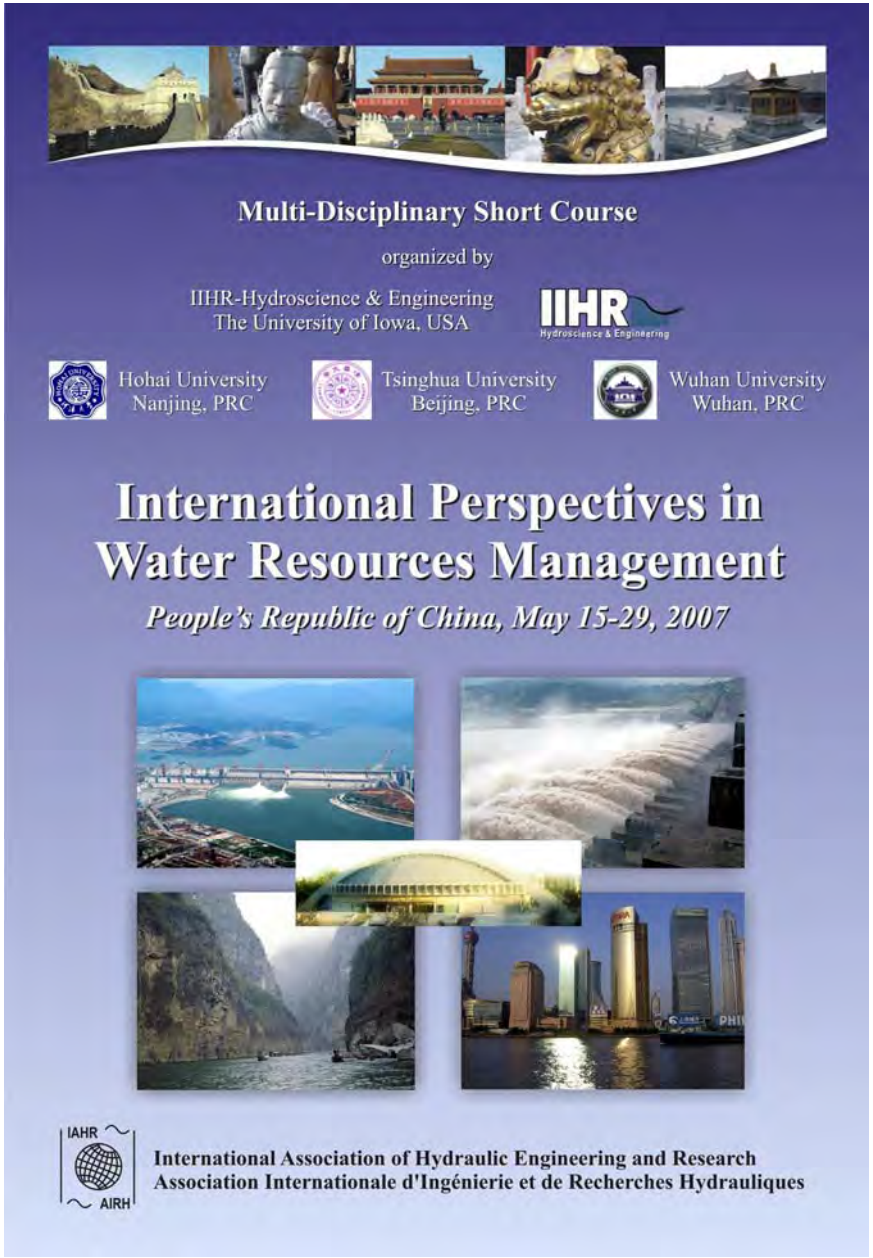
Resources and web pages taken from IIHR – Hydroscience & Engineering



Course Overview

International Perspectives in Water Resources Management (IPWRM) is a study abroad program organized each year in a country or a world region for an intensive and in-depth participant exposure to environmental issues impacting local water resources projects and to prepare students for careers in a global marketplace. Ongoing and future water resource development projects are subject to worldwide scrutiny, and it is proper that today's student and tomorrow's water professional have first-hand knowledge of the realities and complexities of issues that extend well beyond hydraulics, hydrology and related engineering disciplines to account for the historical, cultural, social, economic, and ethical issues related to water resources. Since 1997, IPWRM has focused on particular water resources projects in selected world regions, including the Narmada Valley in India, the Tama River in Japan, the Three-Gorges Dam in mainland China and the Feitsuei Reservoir on Taiwan Island, the lower Danube River basin in Hungary, Poland and Romania, the Itaipu Dam – the largest in the world- on the border of Brazil and Paraguay, and the Southeast Anatolia Project in Turkey. Since 2005, the course was placed under the International Association of Hydraulic Engineering and Research's (IAHR) Engineering Graduate School Environment Water (EGW) auspices. Participants' direct experiences and interactions with peers in the visited countries uniquely support education in the critical area of water science, and prepare students for the increasingly globalized water resources planning and management.

Academic Program

The course starts with preparatory lectures presented by experts on the history, culture, and water resources projects in China. Lectures will be held on The University of Iowa (UI) campus during January - April 2007. Lecture recordings will be sent to off-campus participants. During the visit abroad, participants will interact with local students, faculty, and experts in jointly organized workshops. The workshops will emphasize the planning, socio-economic and environmental impacts, rehabilitation programs and problems, legal, cultural and institutional aspects of water resources projects. Participants will also visit technical, historical, and cultural sites. The course main outcomes are the post-visit written reports and the course website detailing all of the activities conducted during the course.

Specific Activities Tentatively Planned

The short course is organized by IIHR in cooperation with three Chinese universities: Tsinghua University, Wuhan University, and Hohai University. The partner universities have specialized departments with broad experiences in water resources related research and education and are active participants in international scientific organizations. Activities are planned to encourage interaction of course participants with local university faculty and students. Workshops and research seminars will be also held at government agencies with participants from academia and other watershed stakeholders. In Beijing, the technical focus will include visits

to Tsinghua University, the China Institute of Water Resources, Hydropower Research, and a field trip to the Miyun Reservoir. Participants will also tour the Great Wall, the Forbidden City, the Tiananmen Square, and the Olympic Village. In Wuhan, participants will visit Wuhan University, meet faculty and students, and travel to the Three Gorges Project site. In Nanjing, the course participants will visit Hohai University. Finally, in Shanghai, students will have an opportunity to visit the Pudong Development area along the Huangpu River.

Eligibility
The course is directed to seniors and graduate students who wish to become engineers, economists, planners, legal and management specialists, and environmental, social and political scientists. It is also suitable for professionals and young faculty members working in these fields.

Academic recognition
All course participants will receive a participation certificate with the description of the course program and activities. Each participant can earn 0 - 3 semester hours of credit (0-3 in the ECTS system) depending on agreement with the instructors regarding assignments and methods of evaluating the student's work.

Course Instructors
- IIHR–Hydroscience & Engineering: Drs. Marian Muste (coordinator), Larry Weber (director), You-Kuan Zhang, and Songheng Li (instructors)
- Tsinghua University: Drs. Hongwei Fang, Danxun Li (host-country instructors)
- Wuhan University: Dr. Damei Li (host-country instructors)
- Hohai University: Zhingang Zhou (host-country instructor)

Cost
The estimated cost for the short course is $850 including fees, lodging, meals and travel within China, and all educational and administrative costs. Participants are expected to obtain the appropriate travel visa and pay for their travel to and from China. Participants may apply for financial aid from IIHR and from the UI's Office for Study Abroad (UI students only) at www.uiowa.edu/~uiabroad. Available financial aid will be distributed prior to the course offering.

Application Procedure and Deadline
Completed applications must reach The University of Iowa's Office for Study Abroad (OFSA) by **January 15, 2006**. The application includes the application form, available from OFSA (http://www.uiowa.edu/~uiabroad), the most current transcript of grades, a letter of recommendation and a non-refundable application fee of $35. As the number of participants is limited and applications will be reviewed as they are received, early application is encouraged.

Send completed application and requests for further information to:

Office for Study Abroad
1111 University Capitol Centre
The University of Iowa
Iowa City, IA 52242

Phone: (319) 335-0353
Fax: (319) 335-0343
e-mail: study-abroad@uiowa.edu
http://international.uiowa.edu/study-abroad

Course website
The latest information on the course can be accessed on the internet at: http://www.iihr.uiowa.edu/education/international-perspectives/ If you need further information, please contact the course instructor Dr. Marian Muste at marian-muste@uiowa.edu.

IAHR-EGW Highlights
The Engineering Graduate School Environment Water (EGW) of the International Association of Hydraulic Engineering and Research (IAHR) is a network of institutions offering high academic level courses in water and sustainable development areas. Initiated in Europe as a pilot project of the IAHR Section on Education and Professional Development, the School extended its activities to non-European members/universities at the beginning of 2004 to reflect the ongoing globalization in continuing education. The present course is among the first activities that expand the scope of IAHR-EGW at global scale. IAHR-EGW activities (short courses, summer schools, professional development workshops) are dedicated to graduate students, post-graduates, and professionals. The objectives and scope of IAHR-EGW and the complete course calendar may be found at: www.iws.uni-stuttgart.de/IAHR.

International Perspectives In Water Resources Management

International Perspectives in Water Resources Management is a study abroad program initiated in 1997 by IIHR - Hydroscience & Engineering that offers intensive and in-depth exposure to students about issues impacting water resources worldwide. Each year, the program focuses on a different world region, preparing students for careers in a global marketplace. The course in China was organized by IIHR in cooperation with Tsinghua University (Beijing), Wuhan University (Wuhan) Hohai University (Nanjing) and Golder Associates (China offices).

International Perspectives in Water Resource Management

Activities

Activity 1	
Meeting (02/07/07)	
	Course history
	Introduction to the 2007 course
	Financial aspects

Activity 2	
Meeting (02/15/07)	
	"Cyber Management Flood Risk Analysis by Integrating Geographic Information System with Mathematical Model" - IIHR Seminar presented by Hongwei Fang, Thsinghua University, Beijing

Activity 3	
Meeting (02/22/07)	
	"Grabbing the Globe" - COE Seminar Series lecture presented by Gregs Thomopulos, President Stanley Consultants, Muscatine, IA

Activity 4	
Meeting (03/03/07)	
	"Chinese Lunar New Year Festival" organized by UI's Chinese Student Association

Activity 5	
Meeting (03/07/07)	
	Updates from OFSA – Autumn Tallman
	Course itinerary – L. Weber, Y-K. Zhang
	Organizational Issues
	Course projects

Activity 6	
Meeting (03/30-31/07)	
	"Asian American Film Festival" - Organized by Center for Asian and Pacific Studies

Activity 7

Meeting (04/06/07)

	"The Contemporary China: An Introduction of China Business Culture" Seminar organized by Center for Asian and Pacific Studies

Activity 8

Meeting (05/02/07)

	"China – From Past to Present" Lecturer: Lin Qiu – IIHR Graduate student and Vice president of the UI's Chinese StudentsAssociation

Activity 9

Course tour (05/15-28/07)

Activity 10

Project development (06-08/07)

Note: 2 students (Nicole Nguyen and Andy Gans) register for Mandarin Chinese language course organized by the UI's Confucius Institute (03-05/07)

China





International Perspectives in Water Resource Management

Beijing

May 16

With thirteen plus hours of flights and even fewer hours of sleep the group's China experience had begun. The first educational stop of the trip was to the Institute of Water Resources & Hydraulics Research located in rural Beijing. From there the group visited Tsinghua University. While at the university the group was informed of the engineering programs at Tsinghua and given a brief tour of the campus. The tour included a stop at Tsinghua University's sediment transport model of the Three Gorges Dam. After giving a short presentation about student life at Iowa, the group was challenged to a game of basketball. Following the game a reception dinner was held at the guest house resuraunt on the Tsinghua University campus.

Institute of Water Resources & Hydraulics Research

Group at Tsinghua University

Informational meeting about Tsinghua University

Tsinghua University's sediment transport model

Basketball games versus Tsinghua graduate students

Reception dinner

Beijing

May 17

The second day of the trip began with bus ride to the Miyun Reservoir. After the group's arrival, they attended a meeting about the history of the reservoir. Following the meeting the group traveled to the site to catch a glimpse of the beautiful scenery. The next stop of the day was the Great Wall. To finish the evening the group was treated to an amazing meal at the Peking Duck Restaurant in Beijing

History of the Miyun Reservoir meeting

Touring the Reservoir

Touring the Reservoir

Exploring the Great Wall

International Perspectives in Water Resource Management

Beijing

May 18

To begin the day the group traveled to the river restoration site in the heart of Beijing. After a tour of the resoration site the group traveled to the historic Tian'anmen Square, followed by lunch and a tour of the Forbidden City. With time to spare the group took a break to participate in a rickshaw ride through urban Beijing. The next tour lead the group to a Tea house where the participated in a tea ceremony. To conclude the evening a farewell dinner was held, and the group said good-bye to their hosts and Beijing.

Zhuang-He Restoration Project

Tian'anmen square

Forbidden City

Rickshaw Ride

International Perspectives in Water Resource Management

Wuhan May 19

May 19

The first speed bump of the trip was overcome with a restful night's sleep on the train and the group's fresh start in Wuhan. The morning started with check-in at the Wuhan University Hotel and an informative presentation on the Three Gorges Dam. The afternoon's activities included a tour of the National Key Laboratory of Water Resources and Hydropower Projects and of the Wuhan University campus. The group was treated to dinner with the students in the university cafeteria. The night was capped off with a "Dancing Party for American and Chinese Students."

Relaxing on the Train

Wuhan University Fluids Lab

Wuhan university campus

Dinner group with students from IIHR and Wuhan

Dancing Party
for American and Chinese

International Perspectives in Water Resource Management

Wuhan May 20

May 20

The day began with a trip to the Temple of the Dragon King and flood control project. After a short bus ride upstream the group arrived at a flood plain restoration project. Following the purchase of some kites, the group went to the museum of Marquis Yi. The group then engaged in a networking meet with students where differences in cultures and academics were discussed. Later the group was challenged on the volleyball courts on the Wuhan campus. The group's stay in Wuhan concluded with a farewell reception hosted by Guangming Tan (College Dean) and ***Damei Li*** (Sp?)(Professor and Host).

Temple of the Dragon King and Flood Control Project

Kites and River Restoration Project

Museum of Marquis Yi

Thousand year eggs

International Perspectives in Water Resource Management

Yichang May 21

May 21

The day started with a scramble to load the bus and a long peaceful ride to Yichang. Once arriving in Yichang the group stopped for lunch and proceeded to the Three Gorges Dam. The tour of the dam took the group upstream, downstream, and on top of the dam. After exploring the dam the group was lead back to Yichang, where after some crafty navigating by the tour guide, they were able to board the boat. Once on the boat the group was lead up through the ship lock of the dam.

Group in front of the Three Gorges Dam

Wide shot of the Three Gorges Dam

Men pose for pic at Three Gorges

Women pose for pic at Three Gorges

Another night on the Yangtzee River

Yichang May 22

May 22

After a hearty breakfast the group was lead to a smaller boat to begin the day's journey. The first stop of the day was in the village of Badong, where the group took a wooden canoe trip upstream. The next stop was a small island to view several performances, followed by a stop at the Qutangxia Gorge Temple.

Tour of Qutangxia Gorge

Wooden canoe trip

Nick at a temple near Shennongxi

Marian and Andy pose at Qutangxia Gorge Temple

Yichang May 23

May 23

This day was short on events and full of rest, which was just what the group needed after the intense schedule they had been following. After docking the group boarded a bus and rode back to Wuhan. From Wuhan it was a short plane ride to Nanjing, where the group was met by U of I faculty member You-Kwon Zhang. Once arriving in Nanjing the group was led to the subway system of the city.

Pre-flight to Nanjing

Nanjing subway ride

Nanjing subway ride

Nanjing May 24

May 24

The morning activities lead the group to Hohai University, where students were given a tour of the campus and a chance to network with their counterparts from Hohai. After networking with the students the group broke up into smaller groups and set out to explore the market of Nanjing. The market was filled with products from stone jewelry to imitation electronics. Hungry from the bartering experience the group meet up at a Dim Sung restaurant to indulge in local delicacies. The evening was finished with a trip to a Karaoke bar where the students socialized and experienced each other's music.

Networking with Students

The Shopping Experience

Dim Sung Restaurant

Karaoke Bar

Nanjing May 25

May 25

The last educational stop of the trip occurred at the Nanjing Hydraulic Research Institute (NHRI). The group explored several models including a Three Gorges Dam model. After leaving the institute the group proceeded to Shongshan Mountain National Park to do some sightseeing. After dinner the group traveled to downtown Nanjing and enjoyed the view of the city from a revolving bar.


NHRI


Shongshan Mountain National Park


Shongshan Mountain National Park


Revolving Bar

International Perspectives in Water Resource Management

Nanjing May 26

May 26

The trip to Shanghai led the group through Suzhou, where the silk and pearl markets were located. The group was able to experience skill required to create a silk insulated blanket and try their hand at bartering in the pearl market.

The next stop on the way to Shanghai was at the Tiger Hill Pagoda outside the city limits. Once arriving in Shanghai the group checked into the hotel and took some time to experience the night life Shanghai had to offer.

Silk Market

Tiger Hill Pagoda

Dinner in Shanghai

Blues Club in Shanghai

International Perspectives in Water Resource Management

Shanghai May 27

May 27

The morning's activities lead the group the Garden City in the heart of Shanghai. After a tour the students were given some free time to go out and explore what the area had to offer. During their free time the group was allowed to shop and to view more of historic Shanghai. Once returning from the Garden City the group was led to the high end district of Shanghai. All shopped out, the students were treated to a farewell dinner and a boat trip to see riverfront Shanghai

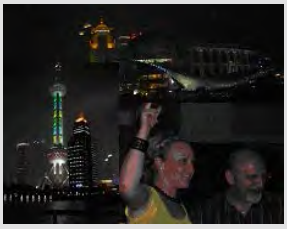
Garden City

Vendor food in Garden City

Performance in Garden City

Farewell Dinner

Boat Trip



Shanghai at Night

International Perspectives in Water Resource Management

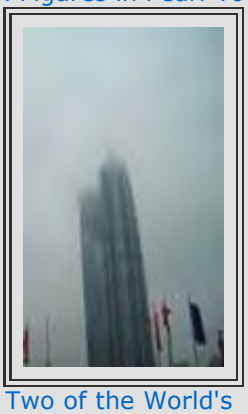
Shanghai May 28

May 28

Before parting from China the group made brief stop at the Pearl Tower, one of the largest TV broadcasting towers in the world. After leaving the Pearl Tower the group said good-bye and settled in for a cozy 13 hour flight back home.

Pearl Tower

Wax Figures in Pearl Tower



Two of the World's Tallest buildings

The last group photo

Projects and Teams

Team 1	
Course Website	
	Nicholas Arnold
	Jodi Benson
	Adrian Strain

Team 2	
An Overview of Water Resources and Education in the United States, The University of Iowa, and IIHR-Hydroscience & Engineering	
	Ryan Asman
	Holly Moriarty
	Nicole Nguyen
	Michael Schaefer

Team 3	
Multi-Disciplinary International Short Course for American Students	
	Ryan Asman
	Andrew Gans
	Marc Wendell

Water Resources and Education in the United States, The University of Iowa, and IIHR
An Overview

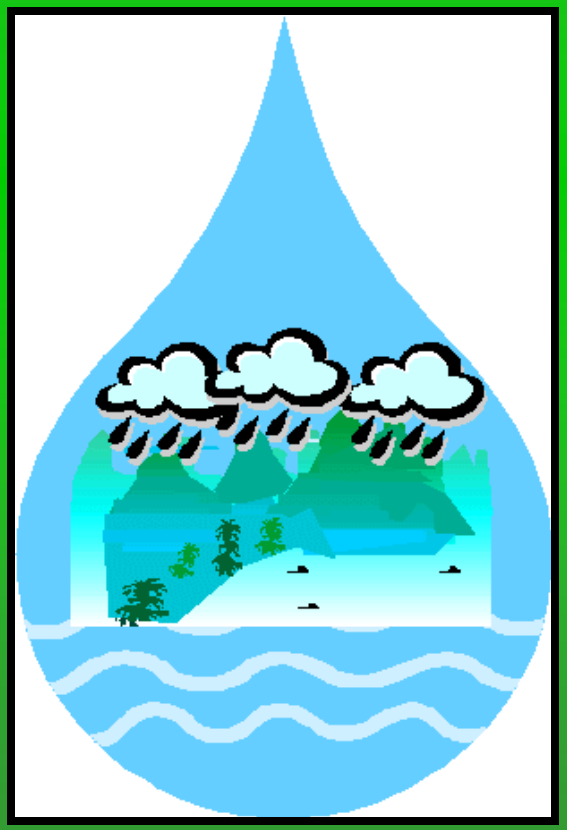
Ryan Asman
Holly Moriarty
Nicole Nyugen
Michael Schaefer

May 2007

Outline

- Water Resource projects in the United States
- Education in the United States
- Education at the University of Iowa
  - In the Classroom
  - Social Events On Campus, Around Town
  - Dormitory/Apartment Life
  - Graduate Study
- Education at IIHR-Hydroscience and Engineering

Hydraulics in the USA and Iowa



Hydraulic Projects

Erie Canal

- Originally 1.2 m deep and 14 m wide with 18 Aqueducts and 83 Locks
- Total rise of 175 m
- 1836-1862 - enlarged to 21 m wide and 2.2 m deep
- 1903-1918 - 4 m deep and 40-60 m wide
- Used mostly for recreation

Hydraulic Projects

Hoover Dam

- Built for 1931-1935 for $49 Million ($676 M Present)
- Concrete Gravity-Arch Dam on the Colorado River
- 2,000 MW of electricity generating capacity
- Creation of Lake Mead

Hydraulic Projects

Central Arizona Project

- 541 km diversion canal in Arizona
- Diverts water from the Colorado River to Southern Arizona
- 1973 Construction began, and major construction was completed in 1993
- Provides irrigation and municipal drinking water to desert areas

Hydraulic Projects

Erie Canal

- Proposed in 1808 and completed in 1825
- Links Lake Erie to the Hudson River, allowing boat traffic from the Great Lakes to the Hudson Bay and Atlantic Ocean

Iowa – Water

- 92% of Iowa's public water is ground water.
- The major water quality problem in Iowa is nonpoint source pollution.
- Contamination comes mainly from industry, field runoff, and livestock runoff.
- Iowa has 71,665 miles of streams and rivers and more than 161,000 acres of lakes, ponds and wetlands.

Iowa Water

Iowa – Mississippi River

- ~2,300 miles long
- From 20 feet to 4 miles in width
- From 3 feet to 200 feet in depth
- Over the course of a year, it moves an average of 159 million tons of sediment.
- The Mississippi River Watershed drains 41% of the continental United States. 31 states and 2 Canadian provinces are included in the watershed. The total area drained is between 1.2 and 1.8 million square miles.

Mississippi River (History)

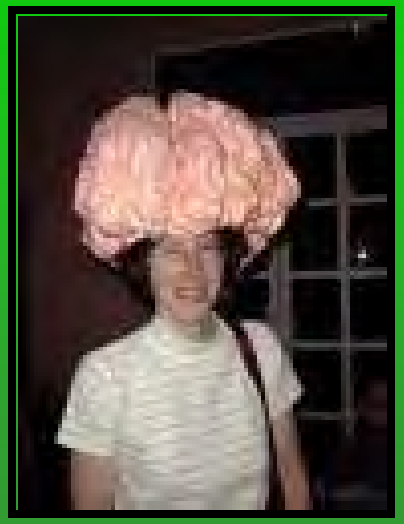
- On May 8, 1541, Hernando de Soto became the first European to reach the Mississippi River.
- Steamboat transportation was a very important passenger and freight industry from 1812 until the beginning of the twentieth century.
- In 1848, the Illinois and Michigan Canal was built to connect the Mississippi River to Lake Michigan via the Illinois River.
- The sport of water skiing was invented on the Mississippi in 1922.
- In 2002, the long-distance swimmer Martin Strel swam the entire length of the river in 68 days.

Iowa Water

Mississippi River

- 29 locks and dams, most of which were built in the 1930s, were designed primarily to maintain a 9 foot (2.7 m) deep channel for commercial barge traffic.
- Each year millions of people visit the Mississippi to observe wildlife, go camping, participate in environmental education programs, to fish, hunt and enjoy picnicking, boating and skiing.

Education in the United States



Public and Private Universities

University of Iowa—Public

University of Dubuque—Private

Size, Cost, and Financing

- Enrollment: less than 1,000 to more than 50,000 students
- Tuition: $5,000 to $40,000 per year
- Finances: Most undergraduates receive grants or loans
- Finances: Graduate students are usually paid for doing research to cover education costs

Undergraduate Education

- Usually takes 4 years
- College graduation rate is 25.9%

Graduate Study

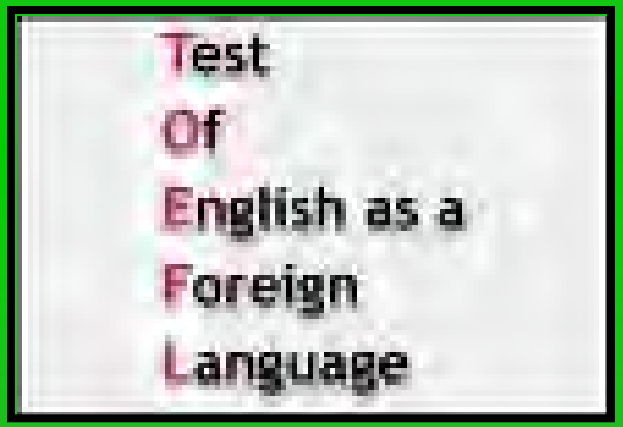
- 9.4% of the US population holds a graduate or professional degree
- Master's degrees generally take 1-2 years of study
- Ph.D. programs are generally 4-5 years
- Rate of pay increases (drastically in some fields) for graduate or professional degree holders

Glossary—The GRE

- A standardized test that is an admissions requirement for most graduate schools in the United States. The GRE is supposed to measure the extent to which undergraduate education has developed an individual's verbal and quantitative skills in abstract thinking.

Glossary—The TOEFL

- The Test of English as a Foreign Language (TOEFL) evaluates the potential success of an individual to use and understand Standard American English at a college level. It is required for non-native applicants at many American colleges and universities.



Glossary—Semester Hours

- Semester hour: The unit of credit used by colleges in which a credit is granted for the satisfactory completion of a course which requires at least 15 hours of instruction and at least 30 hours of supplementary assignments per semester. For every hour of lecture, two hours of homework and studying are expected.

Glossary—Grade Point Average

- GPA (Grade Point Average) is a university's means for measuring the quality of student academic performance. Most US universities, including The University of Iowa, use a 4 point system, which allots a specific number of points for each letter grade (A = 4 points, B = 3 points, etc.). The letter grade earned is multiplied by the credit hours of the course to achieve the grade points earned for each course. Dividing the total number of grade points by the number of credit hours attempted gives the GPA.

Education at the University of Iowa

In the Classroom

In the Classroom

University of Iowa

- Iowa City, Iowa
- Established in 1847
- 125 major buildings
- 1,900 acres
- 29,900 students enrolled
- Yearly Tuition
  - Iowa Residents: $6,200 (US)
  - Non-Residents: $18,400 (US)

In the Classroom

Areas of Study

- 100+ Undergraduate Majors
- 107 Graduate Student Areas of Study
- 7 Professional Degrees
- 11 Colleges:
  - College of Liberal Arts & Sciences
  - College of Dentistry
  - College of Education
  - College of Law
  - College of Nursing
  - College of Pharmacy
  - College of Public Health
  - Graduate College
  - Henry B. Tippie College of Business
  - Roy J. & Lucille A. Carver College of Medicine
  - College of Engineering

In the Classroom

College of Engineering

- Departments
  - Civil & Environmental
  - Mechanical
  - Electrical & Computer
  - Industrial
  - Biomedical
- 4-year program
- Students:
  - 1,600 enrolled
  - 79% male, 21% female
- 128 professional, scientific, & merit staff members
- Research Expenditures: $28.9 million (US)

In the Classroom

Registration

- Meet with advisor to discuss course schedule
- Undergraduates take 12-18 semester hours
- Register for courses online
- Change schedule until first day of class
- Classes can be dropped/added within 2 weeks, without affecting transcript
- 11 weeks to withdraw any course
- Second-grade option, up to 3 courses

In the Classroom

Typical Class Schedule

- 12-18 semester hours per semester

1st YEAR	Session	Course #	Course Name	SH
1st Semester	All	22M:031	Engineering Math I - Single Variable Calculus	4
	F	59:005	Engineering Problem Solving I	3
	All	4:011	Principles of Chemistry I	4
	All	10:003	Accelerated Rhetoric (or 10:001 & 10:002)	4
	F	058:010	First year Engineering Seminar	0
			Total	**15**
2nd Semester	All	22M:032	Engineering Math II - Multivariable Calculus	4
	S	59:006	Engineering Problem Solving II	3
	F/S	29:081	Introductory Physics I	4
	All	22M:033	Engineering Math III - Matrix Algebra	2
	All		General Education Component #1	3

2nd YEAR			Total	16
1st Semester	All	22M:034	Engineering Math IV - Differential Equations	3
	F/S	29:082	Introductory Physics II	4
	All	59:007	Engineering Fundamentals I - Statics	2
	F/S	59:008	Engineering Fundamentals II - Electrical Circuits	3
	All	59:009	Engineering Fundamentals III - Thermodynamics	3
	F/S	53:015	Civil Engineering Practice	2
			Total	**17**
2nd Semester	F/S	22S:039	Probability & Statistics for Civil Engineers	3
	F/S	057:010	Dynamics	3
	S	53:050	Natural Environmental Systems	3
	S	057:019	Mechanics of Deformable Bodies	3
	S	53:105	Engineering Geology	3
	All		General Education Component #2	3
	S		CEE Sophomore Seminar	0

In the Classroom

Typical Course

- Lectures meet 2-3 days/week
  - 50-75 minutes
  - 50 min. discussion meet once/week
  - 2-3 hour lab meet once/week
- 1-3 homework assignments/week
- Research Reports
- Lab Reports
- 1-3 Midterm Exams
- 1 Final Exam

In the Classroom

Graduation Requirements

- Must complete 128 semester hours towards degree
- Required General Engineering Courses:
  - Calculus 1&2
  - Matrix Algebra
  - Differential Equations
  - Engineering Problem Solving 1&2
  - Principles of Chemistry
  - Introduction to Physics
  - Statics
  - Electrical Circuits
  - Mechanics of Deformable Bodies
  - Thermodynamics

In the Classroom
Graduation Requirements

- Must complete 21 semester hours in elective focus area
- 2 Design Courses
- Additional Requirements
  - Rhetoric
  - 15 SH of General Education Courses
    - Humanities
    - Social Sciences
- GPA of 2.0 or higher

Social Life

Social Life

Tailgating

- Saturday mornings in the fall
- 6am to game time
- Students, Alumni, Faculty, Fans

Social Life

Even Politicians Tailgate

Social Life

Kinnick Stadium

- Capacity of 70,397
- $US 90 Million Renovation

Social Life

Student Organizations

- American Society of Civil Engineers
- Engineers for a Sustainable World
- Society of Automotive Engineers
- Tau Beta Pi, Chi Epsilon, Pi Tau Sigma

Social Life
ASCE

- Concrete Canoe
- Steel Bridge
- Road Cleanup
- Professional Networking
- Social Events

Social Life

It Really Floats

Social Life

SAE Baja Car

Social Life

Club Sports

- Iowa has 33 Club Sports
  - Aikido to Water Skiing
  - Men's and Women's Teams
- Often self-finance travel expenses
- Some teams travel all across the United States to compete

Social Life

Ultimate Frisbee

- Iowa Club Team (Competitive)
- Co-ed Recreational Summer League

Social Life

Club Ultimate Frisbee

Social Life

Disc Golf

- Like traditional golf, except…
- Baskets instead of holes
- Special discs instead of balls and clubs
- It's free

Social Life

Nightlife

- Pedestrian Mall
- Many, many bars
- Bars are always occupied
- FAC—Friday After Class

Social Life

Live Music

- Friday Night Concert Series
- Jazz Fest
- Large Music Festivals
  - Bonnaroo
  - Lolapalooza

Social Life

Outdoor Recreation

- Camping
- Rock Climbing
- Canoeing
- Cycling
- Sledding
- Skiing

Social Life
RAGBRAI

- Register's Annual Great Bike Ride Across Iowa
- 8,500 Participants
- Average 760 km Route
- Ride in 7 Days
- Longest, Largest, and Oldest Touring Bicycle Ride in the World

Dormitory and Apartment Life

Dorms—On campus Housing

- Traditional students usually live in the dorms for at least one year
- 10 dorms at Iowa
- 140-1,000 people in each dorm, totaling more than 5,000 for all the dorms

Dorm and Apartment Life

Dorms—Costs and Rules

- Room ranges from about $3,300-$8,000 per academic year
- No drinking alcohol and no co-ed rooms
- Board costs about $2,200 per year

Inside a Dorm Room

Dormitory Food Court

Dorm and Apartment Life

Apartments – Off campus

- Students usually live in apartments after their sophomore year
- Rent -$3,500 to $8,500 per academic year
- Usually more freedom than dorms or fraternity houses

Dorm and Apartment Life

Inside a Student Apartment

Dorm and Apartment Life

Fraternity Houses – Off campus

- Students who are in a fraternity or sorority may choose to live in their respect house
- Room and board cost approximately $3,000 per year, although membership dues are also required which may also be several thousand dollars

Inside a Fraternity House

IIHR Hydroscience & Engineering

The University of Iowa

The University of Iowa

Graduate Study

- Preparing for Graduate School
- Types of Appointments
- Research & Course Requirements
- Social Life
- Career Search

Graduate Study

Preparation

1. Standard Testing
2. Statement of Purpose
3. Transcript
4. Work Experience

Graduate Study
Preparation

1 Standardized Test	Profession
• Law School Admissions Test	*Lawyers*
• Medical College Admissions Test	*Doctors*
• Graduate Management Admissions Tests	*Business People*
• Dental Admissions Test	*Dentists*
• Graduate Record Exam	*Everyone Else*
• Test Of English as Foreign Language	*All International Students*

2 Statement of Purpose

Introduce yourself

What you want to study

Why you want to study it

Career goals and objectives

How will this school help you achieve your goals?

3

2 SEMESTER 2003-04

Title	Dpt	Crs	Hrs	Grade
ENGINEERING GEOLOGY	053	105	03	A-
DYNAMICS	057	010	03	A-
NAT ENVIRON SYSTEMS	053	050	03	B+
PROB STA ENG PHY SC	22S	039	03	B+
MECH DEFORM BODIES	057	019	03	B-
CEE SOPHOMORE SEM	053	020	00	S

Hrs	GPA
15	3.33

1 SEMESTER 2004-05

Title	Dpt	Crs	Hrs	Grade
SOIL MECHANICS	053	030	03	A
PRINC STRUCTL ENGR	053	033	03	A-
PRINC TRANSPOR ENGR	053	063	03	B
CIVIL INFRASTRUCT	053	068	03	B
FLUID MECHANICS	057	020	04	B
PROF SEM CIVIL ENG	053	091	00	S

Hrs	GPA
16	3.31

4 Include Resume or Curriculum Vitae detailing previous work experience

Graduate Study

Appointments

- **Fellowship**
  - Most competitive, awarded by large agencies
- **Research Assistantships**
  - Offered through the institution, part-time paid researcher
- **Teaching Assistantships**
  - Assist in the teaching of a course, part-time paid assistant

Graduate Study

Research/Course Requirements

- 20 hours per week of research
  - Most do more than this
- Keep up with course work
  - 3 or 4 classes at a time
  - Some more demanding than others
- Master's Degree
  - 8 classes plus a thesis
- PhD Requirements
  - 24 classes plus a dissertation

Education at IIHR

IIHR

Mission of IIHR

Computational Fluid Dynamics

- Understanding of the physics of flow and flow-related processes
- Development of analysis, modeling and simulation skills
- Use of state-of-the-art equipment, instrumentation and computer methods
- Appreciation of environmental, economic, social and international issues
- Communication skills for a successful professional career

IIHR Facilities

- Computational & physical model experimentation laboratories
- High speed computer facility
- Low-turbulence wind tunnel
- Vortex-dynamics laboratory
- Ship model towing tank
- 3-D scanning elastic lidar
- And many more labs

IIHR

Research Opportunites

- Atmospheric & climate processes
- Biofluid mechanics
- Computational hydraulics
- Computational fluid dynamics
- Environmental hydraulics & fluid mechanics
- Hydraulic engineering
- Hydraulic-structure design
- Hydrologic engineering
- Hydrometeorology
- Ice mechanics
- Industrial & aeronautical fluid mechanics
- River engineering
- Ship hydrodynamics
- Urban hydrology & hydraulics
- Watershed processes & management
- Water-resources engineering & management

IIHR

Graduate Studies Funding

- Graduate Research Assistantships
- IIHR Graduate Fellowships
- UI Fellowships
- International fellowships (for short term graduate studies)

Graduate Student Offices

IIHR

Master's Degree Requirements

- 24 Semester Hours (8 Classes) plus thesis
- Must take:
  - Probabilistic Methods in Hydroscience
  - Intermediate Mechanics of Fluids
  - Flow in Open Channels
  - Hydrometeorology
- Must also take 4 other electives
- Dozens of electives to choose from

Ph.D. Requirements

- 90 Semester Hours plus dissertation
- Up to 25 hours may be for research
- Examples of other courses offered:
  - Coastal Hydrodynamics
  - Environmental Dispersion Processes
  - Computational Hydraulics
  - Viscous Flow
  - Inviscid Flow

Social Life

Students of IIHR

- Regularly go out for pizza
- Monthly "bigger" activity
  - Ski trip
  - Visit to historical site in hydraulics

Social Life

Students of IIHR

Social Life

Students of IIHR

- Oldest hydroelectric plant in the world
- Located on the Mississippi River, 1.5 hours from IIHR-Hydro-science and Engineering

Social Life

Students of IIHR

Career Search

- The lab is well-networked
- Employers often contact professors looking for graduates
- Many go into consulting
- Minimum salary
  - Usually at least $50,000 per year

College Life in the U.S.
Questions?

Ryan Asman
Holly Moriarity
Nicole Nyugen
Michael Schaefer

May 2007
http://www.iihr.uiowa.edu

Multi-Disciplinary International Short Course for American Students

August 15, 2007

Ryan Asman, Andrew Gans, Marc Wendell, Marian Muste

International Perspectives in Water Resources Management
IIHR-Hydroscience & Engineering
University of Iowa, College of Engineering

Table of Contents

1. Introduction

IIHR pioneered the International Perspectives in Water Resources Planning study abroad course in 1997. Since then, it has focused each year on a country or a world region for an intensive and in-depth exposure to technical, historical, cultural, social, economic, ethical, and environmental issues that impact planning and execution of water projects. Recognizing the fact that the water resources issues transcend political boundaries and that most major water resource development projects are taking place outside of the U.S., IIHR organized this course to introduce students to the realities and complexities of issues related to water and the environment. A summary of the countries and projects visited thus far are listed in *Appendix A* (A.1). The number and type of participants, and their home institutions are listed in A.2.

IIHR is widely recognized as a world leading institute in higher education and research in fluid mechanics, water resources engineering, and hydrology (Mutel, 2000), hence, it is particularly well placed to launch and maintain such an initiative in international education. Thus far, IIHR has borne the costs for organizing and conducting the course, with limited support from The University of Iowa Graduate College and the College of Engineering. The course offerings to date have been highly successful due to enthusiastic and meaningful support provided by IIHR's international alumni network (that includes 755 in 55 countries around the world) and academic and research international partners with whom IIHR has formal agreements of collaboration (25 memoranda of understanding with foreign institutes). In addition, IIHR research staff have a very active international presence through their participation conferences and symposia, many of which they help organize. IIHR also has built strong alliances with large international hydraulic communities, such as IAHR student chapters, UNESCO-IHE, and IAHR-EGW.

2. Course Preparation

As the course has evolved through the years, so too have the demands on the instructor in preparing for the course. The preparation for the course should follow the timeline outlined in Table 1. The timeline is adapted from the NSF proposal for a *Global Awareness Certificate Program in Water Resources Management*, with the major change being an earlier start date for planning.

Table 1. Annual tasks for program administration

	Task	Responsibility	Timeline
1	Establish management team, identify host partners in country for program offering, draft objectives	PD[1], IP/OFSA[5]	**July**
2	Draft program budget and assess risks	PD, H, IP/OFSA	**August**
3	Launch course website for recruiting	PD, Co-D, IIHR	**September**
4	Begin recruitment tasks (see Table 4)	PD, IIHR	**September**
5	Finalize program administration	PD, Co-D, H, IIHR	**December**
6	Prepare the lecture series at home and host country	PD, H, IIHR, IP/OFSA	**January**
7	Select participants and initiate visa and travel	PD, Co-D, IIHR	**January**

	arrangements		
8	Initiate the home-lecture series, fine tune budget, disseminate safety and security plan, develop contingency plan	PD, H, IIHR, IP/OFSA	**January – May**
9	Finalize logistical arrangements	PD, Co-D, H	**March**
10	Confirm participants acquisition of passports, visas, travel arrangements to and from host country	PD, Co-D	**April**
11	Start field trip, conduct on-site orientation	PD, Co-D, H	**May**
12	Oversee on-site activities	PD, Co-D, H	**May**
13	Review individual research progress and organize departure (surveys, closing event, discuss cultural shock)	PD, E[4]	**May**
14	Return home, complete website, initiate written reports	PD, IIHR	**May**
15	Close financial aspects and reports to designated offices	PD, IIHR, IP/OFSA	**June**
16	Conduct course evaluation	PD, E	**July**
17	Grade final reports, issue program certificates, finalize website	PD	**August**
18	Report to NSF overall experience	PD	**September**

PD[1]=program director, Co-D[2] = co-directors, H[3]= host institutions, E[4] = evaluator, IP/OFSA[5]= UI International Programs and Study Abroad Offices

2.1 Recruitment

The recruitment of students is not only important in the context of multiple disciplines, but it also can amplify the international aspect of the course by adding diversity to the nucleus of travelling students. Five different tools have been identified for use in recruiting, shown in Figure 1 below. The five recruiting tools identified will meet the recruiting needs at the local, national, and international level.

Figure 1. Materials for recruitment.


Poster
Website
International Web Campaign
Email Course Information
Local Student Organizations' Presentation

2.1.1 Local

A representative from the course shall attend "beginning of the semester" meetings for student organizations in order to present information about the course. Table 2 lists relevant student organizations that should be contacted to arrange time to discuss the program, as well as the email addresses for the respective organizations. *Appendix B* (B.1) contains a template letter to be emailed to the contacts below within the first two weeks of the fall semester.

Table 2. Local student organizations where IPWRM should be promoted.

Student Organization	Contact (Faculty Advisor or student)
ASCE	Dr. Allen Bradley → allen-bradley@uiowa.edu
ASME	General → asme@engineering.uiowa.edu
Engineers for a Sustainable World (ESW)	Dr. Craig Just → craig-just@uiowa.edu
Biology Undergraduate Society (BUGS)	General → UIBUGS@gmail.com
Biomedical Engineering Student Society (BMESS)	General → bmess@engineering.uiowa.edu
College of Public Health Student Association	Jacquleine Leung → jacqueline-leung@uiowa.edu
Environmental Law Society	General → law-els@uiowa.edu
International Law Society	General → ils.uiowalaw@gmail.com
Society of Hispanic Professional Engineers (SHPE)	General → shpe@engineering.uiowa.edu
Association of Geology Graduate Students	Michelle Stocker → michelle-stocker@uiowa.edu
University of Iowa Environmental Coalition	Julia Mantey → julia-mantey@uiowa.edu
American Institute of Chemical Engineers (AIChE)	Dr.David Murhammer → david-murhammer@uiowa.edu

A poster shall also be created and distributed to the above organizations. Posters (11"x17") should be concise and highlight the following aspects of the program: host country, cost (emphasize that it is significantly subsidized), credit hours, cultural activities, pictures from previous trips (both entertaining and professional), and should direct the audience to the course website.

2.1.2 National

Recruiting at the national level will entail distribution of the aforementioned poster to the contacts outlined in Table 3. A template letter to accompany the poster to be mailed can be found in *Appendix B* (B.2). This list is not comprehensive, but can serve as a starting point for distribution.

Table 3. Contact information of national universities to distribute the course poster/information.

University	Departmental Email	Mailing Address
Colorado State University	civil@engr.colostate.edu	Civil Engineering Colorado State University Campus Delivery 1372 Fort Collins, CO 80523-1372

Table 3. (continued)

University	Departmental Email	Mailing Address
University of Minnesota	govro001@umn.edu	Department of Civil Engineering 500 Pillsbury Drive S.E. Minneapolis, MN 55455-0116
University of Illinois	civil@uiuc.edu	Department of Civil Engineering 205 North Mathews Ave Urbana, IL 61801-2352
Utah State University	office@engineering.usu.edu	Department of Civil Engineering 4110 Old Main Hill Logan, UT 84322-4110
Stanford University	pamela.nelson@stanford.edu	Department of Civil Engineering Terman Engineering Center M42 Stanford University Stanford, CA 94305-4020
UC Berkeley	info@ce.berkeley.edu	Department of Civil Engineering 760 Davis Hall University of California, Berkeley
UC Davis	mmlozano@ucdavis.edu	University of California Department of Civil Engineering One Shields Avenue Davis, CA 95616
Cornell University	civil_env_eng@cornell.edu	School of Civil Engineering Cornell University, Hollister Hall Ithaca, New York 14853-3501
University of Idaho	civilengr@uidaho.edu	Department of Civil Engineering University of Idaho P.O. Box 441022 Moscow, ID 83844-1022
Iowa State University	cceeweb@iastate.edu	Department of Civil Engineering 394 Town Engineering Iowa State University Ames, IA 50011
University of Wisconsin	russell@engr.wisc.edu	Civil Engineering Department University of Wisconsin-Madison 2205 Engineering Hall 1415 Engineering Drive Madison, WI 53706-1691
Purdue University	lawley@purdue.edu	School of Civil Engineering 550 Stadium Mall Drive West Lafayette, IN 47907-2051
Virginia Tech	smerten@vt.edu	Department of Civil Engineering 200 Patton Hall, Virginia Tech Blacksburg, VA 24061

2.1.3 International

Recruiting international students to participate in the course should focus on a campaign of internet advertising that will reach global audiences. Links to the course webpage can be placed on various sites on the web. At the first level, general study abroad websites (i.e. studyabroad.com) should be targeted as they offer free listings for study abroad opportunities. In addition to web advertising, posters could be distributed to institutions offering programs in disciplines that are identified as relevant to the water resources discipline, but could target non-engineers. Finally, a list of contacts at international institutions needs to be compiled, and then the course webpage could be advertised through emailing various collaborators of IIHR.

The timing of the information dissemination is critical to the success of recruiting. Many factors contribute to the need for early dissemination of course recruitment materials. Of them, included are the following:

- The beginning of the academic year is vital to students for planning their curriculum. Often students are able to plan only one semester in advance, but allowing two or more semesters notice of a course makes studying abroad more likely.
- For students that would require financial aid for participating in the course, additional time allows for submission of applications for private loans.
- The nature of recruiting international students inherently requires more time organize a student's participation in the course.

The course director should utilize the assistance of a graduate student for help in completing many of the recruiting tasks. Distributing the tasks to multiple students will ease the burden on all and is encouraged. Additionally, an arrangement could be made with the officers of SIIHR to help the course director meet the recruiting needs, outlined in the schedule in Table 4. The director could also offer a travel scholarship (covering the airfare for a local graduate student that wishes to participate in the course) to one student for being the assistant to the course director, performing many tasks in the recruiting stage, as well as basic organizational tasks throughout the course. The position of a teaching assistant could also be considered, with a year-long appointment emphasizing recruiting for one semester, and lecture preparation for the second.

Table 4. Recruitment task schedule.

Task	Start Date	End Date
Poster Design/Printing	August	September
Website Design/Launch	August	September
Local Student Org Meetings	September 1	September 15
Poster Distribution on UI Campus and National Mailing	September	October
International Web Campaign	September	October
Email to National Universities	October	November

2.2 Lecture Schedule

The lecture schedule should entail bi-weekly, prearranged meetings determined at the time a participant signs up for the course (the semester preceding the trip). The lecture series should give a solid background, as well as prepare the students for the course-length projects, as seen by the events in Table 5.

Table 5. Lecture schedule for IPWRM.

Lecture	Topics to be Covered
Meeting 1	Course background, goals, passports, visas
Meeting 2	Country Background, general culture and history
Meeting 3	Water Resources issues pertaining to host country
Meeting 4	Student interests in host country, project development, discussion
Meeting 5	Project Selection, development of each project idea, input from students and instructors
Meeting 6	*Project Progress Presentation; comments from class members and instructors
Meeting 7	Message from the Director. Course history in pictures
Meeting 8	Final announcements, verify important travel documents, go over packing list
***Project Progress Presentation--Summarizes actions to be carried out before, during, and after the trip.**	

In addition to classroom lectures, bi-weekly (alternating with the lecture) quizzes will be emailed to the participants, pertaining to current events and news of the country. The students will be required to occasionally browse major online news periodicals, searching for water resources, environmental justice, and similar issues relevant to the course. Quizzes will be general, and shall cover the largest news stories of the two week period to ensure that the student is keeping up with the current information at a relatively relaxed pace (two week intervals). Four major international news sources are suggested in Table 6 below; the final news source is a sample of the host country's major news source, to be customized each year.

Table 6. Internationally significant periodicals and their respective websites.

Periodical Name	Website
International Herald Tribune	http://www.iht.com/
New York Times	http://www.nytimes.com/
BBC News	http://news.bbc.co.uk/
***People's Daily**	http://english.peopledaily.com.cn/
*Host country periodical for China	

3. Course Delivery

When participating in a two-week travel experience with a rigorous schedule of events, it recommended that your packing be limited to bags that you can carry on your back (e.g. a backpack) or are lightweight and are carried or rolled easily. As for a two-week trip, most travelers can fit all necessities into two

backpacks: 1) a large framed backpack, sold at outdoors stores everywhere, and 2) a smaller "normal" size backpack that you would carry to school. Strapping the big one on back and the smaller one on front frees up all appendages for walking and making any necessary transactions at ticket windows, boarding gates, etc. Additional packing advice for traveler's can be found in *Appendix D*.

While the course is well-organized and the time table of the trips' events predefined, there is always opportunity for improvisation when travelling. A good rule of thumb for preparing is to pretend that you are travelling solo when determining what items you need. If this list becomes too extensive, find a travel buddy to share items with in order to reduce your packing volume. For instance, could you possibly share a bottle of shampoo with a fellow traveler? Maybe the answer is no, but use that mentality when trying to reduce the number of items on your packing list. Participants coming from different parts of the world may not be able to apply this strategy without putting forth extra effort and it may not be worthwhile for them.

Another useful tool when travelling abroad, as a group or alone, is a travel book for the host country. Many are available from different publishers, with each having a specific niche. If your interest is in music, perhaps you can identify a travel guide that highlights where to listen to good music, in the event that you have a few free hours in the evening during the two-week course. Additionally, travel guides can be useful for cultural "do's and don'ts," and most contain a language section which is convenient for making transactions involving local currency.

Participants who have not travelled internationally are encouraged to bring reminders of home with them. While two weeks is not a long time when compared to longer term programs, submersion in another culture can be overwhelming the first time. If you're not into staring at family portraits before going to bed, maybe you could bring a bag of trail mix to give you a little taste of home.

It won't take long to discover that people around the world are often proud of their culture, and have much more local culture than we tend to realize. Americans tend to be more homogeneous in culture and very few practice local customs. Before travelling abroad, try to identify a few things that you can share with locals in the host country that may be intriguing or unique. Think about some of those weird things you and your family did when you were a kid, there's probably something worth sharing somewhere in there. If possible, maybe come up with a small gift that you could distribute to your new friends abroad, like copies of your favorite CD or t-shirts with your schools name on it.

4. Course Closure

One challenge to the current format of the course is the unsupervised nature of the post-trip projects. With no regular meeting for the instructor to track the progress of students, there is some difficulty for the students to self-motivate the project. Future courses should focus on work completed prior to trip (see survey response #3 in *Appendix C*) departure, with the in-country visit serving as the capstone that ties all of the projects together. Some suggested projects are listed in the following section.

4.1 Outcomes

The course shall deliver the following outcomes as a result of the projects:

1) Documentation of experiences abroad.
2) Evaluation of water resources issues in host country, drawing parallels to America.
3) Course development: strategies for improvement, highlights of success.
4) International network of students and professionals from multiple disciplines, but interested in or focused on water resources.

In addition to the above topics, the project groups should be as interdisciplinary as possible, with mixing of graduate and undergraduate students left to the discretion of the course instructor. Projects covering the four topics above will yield many benefits. The history of the course will be well documented and justified through this quasi-annual process, in the event such documentation is necessary for funding purposes, general administration, etc. The second project will give greater insight to the significance of water resource issues at home and abroad, adding context to an increasingly nationalistic and often biased American media. Students' input into strategies for improving the course is vital to the prolonged success of the course, as it is students who participate and ultimately give the course momentum; this will give the course directors a chance to receive formal feedback from the participants of the course. Finally, the development of an international network is difficult, but increasingly simple as a result of both technology and globalization. Much creativity will be needed for the successful implementation of this project both now and in the future. At present, there is not a user-friendly web-based network of past participants, hosts, or institutions of the course. One recommendation is an alumni-based webpage where participants keep their contact information updated, and those seeking information from other IPWRM alumni have access to their contact information.

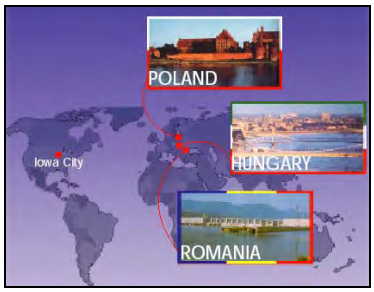
5. Conclusion

Multi-disciplinary endeavors in the academic arena are challenging at the local level and nearly impossible internationally. In order to have a course that legitimately embraces students and professionals from all disciplines, a well-defined strategy for course preparation, delivery, and closure is needed. One organizational strategy is defined in this paper, and describes means of recruiting, a proposed schedule of lectures, materials for ensuring successful delivery of the course, as well as expected outcomes in the form of student projects. While the materials and methods proposed in this paper are not comprehensive, they could perhaps serve as a template for developing a user specific organizational strategy for delivering a multidisciplinary short course in international education.

Appendix A

A.1. Past offerings of *International Perspectives in Water Resources Management*.

Country/Dates	Collaborators/ Main Objectives	
India **December 29, 1997 - January 17, 1998**		**Collaborators: Dharmsinh Desai Institute of Technology, Gujarat, India** **Visited water resources projects on Narmada and Mahi Rivers in Western India, and Ganges and Jamuna Rivers in North India. Archaeological site of Harappan era in Lothal, and historical monuments in Amdavad, Agra, and Delhi.**
Taiwan and Japan **May 23 – June 6 1999**		**Collaborators: National Taiwan University (Taiwan), Hiroshima University, Kyoto University, Japan Ministry of Construction, City of Osaka (Japan)** **Taiwan: Visits at Feitsuei Reservoir, Taipei Flood-Control, and Chi-Chi Diversion Projects. Japan: Visits at Nukui Dam, Tama River in Tokyo, Hiroshima Peace Park, Osaka and Kobe Bays, Akashi harbor and bridge.**
China **May 20-June 3 2000**		**Collaborators: Wuhan University of Hydraulic and Electrical Engineering, Tsinghua University, Beijing, Hohai University, Nanjing University.** **Visits at Miyun Reservoir, Three Gorges Project, Pudong Development, Academy of Water Sciences, Great Wall.**

Eastern Europe **May 14 - June 01 2001**		**Collaborators: Budapest University of Technology and Economics (Hungary), Warsaw University of Technology (Poland), and Technical University of Civil Engineering Bucharest (Romania).** **Visits to hydraulic structures on Danube and Vistula rivers, flood prevention and mitigation projects, hydro-power plants, irrigation systems in Hungary and Romania; mitigation projects for air, water, and land protection (Poland and Romania); Danube Delta (in Romania).**
Argentina **May 16 – June 2 2003**		**Collaborators: National Institute of Water and Technological Institute of Chascomus, Argentina** **Visits to major dams on the Paraná River (southern Brazil and Argentina), Itaipú and Yacyreta dams, Iguazú Falls, the delta at the lower Paraná, the Rio de la Plata.**
Turkey **May 21 – June 4 2005**		**Collaborators: Middle East Technical University, Istanbul Water and Sewage Authority, DSI (State Hydraulic Works), Suayb Water User Association** **Visits to major hydraulic structures on the Firat (Euphrates) and the Dicle (Tigris) rivers, including large-scale flood prevention and mitigation projects and hydro-power plants; irrigation systems in Harran (or South-eastern Anatolia).**
China **May 14 – May 28 2007**		**Collaborators: Tsingua University, Wuhan University, Hohai University** **Visits to Miyun Reservoir, Three Gorges Project, Pudong Development, Nanjing Hydraulic Institute, Great Wall.**

A.2. Demographic overview for *International Perspectives in Water Resources Management*.

Course	Students (M/F)*	Grade	Major	University
India (1998)	11 (9/2)	2 UG** 9 G***	7 CEE 1 ME 1 Geography 1 Biology 1 Phys Education	10 University of Iowa 1 Pensacola Christian College
Taiwan-Japan (1999)	10 (6/4)	8 G 2 YP****	10 CEE	6 University of Iowa 2 University of Minnesota 1 Colorado State University 1 University of Kansas
China (2000)	20 (13/7)	3 UG 14 G 3 YP	15 CEE 1 ME 3 Law 1 Watershed Science	11 University of Iowa 3 University of Stuttgart (Germany) 2 University of Illinois 2 Colorado State University 1 Cornell University 1 Florida Sate University
Eastern Europe (2001)	8 (2/6)	1 UG 7 G 1 YP	5 CEE 2 Urban & Regional Planning 1 Watershed Science	4 University of Iowa 2 Colorado State University 1 Rowan College 1 Guelph University (Canada)
Argentina (2003)	18 (10/18)	6 UG 11 G 1 YP	14 CEE 3 Urban & Regional Planning 1 Water Resources	13 University of Iowa 2 Colorado State University 1 University of Illinois 1 Kobe University (Japan)
Turkey (2005)	14 (7/7)	4 UG 9 G 1 YP	10 CEE (1 FA) 1 ME 1 ChemE 1 Medical 1 Int'l Relations	12 University of Iowa 1 Cornell College 1 Uruguay
China (2007)	12 (7/5)	8 UG 2 G 2 YP	8 CEE 1 ME 1 Comp Science	10 University of Iowa 1 IIHR Staff 1 Uruguay

M/F* = Male/Female; UG** = undergraduates; G*** = graduates; YP****= young professionals/ junior faculty

Appendix B

B.1: Email to Student Organizations

Dear Friends,

I'm writing to inform you of a unique international experience in the field of water resources. A two-week, multidisciplinary course that provides the both practical experience and academic credit (up to 3 may be awarded) will take place in (insert location) from (insert date), offering insight to the global issues that surround water resources today.

I'd like to speak briefly to your student organization at your first meeting of the semester if possible, or forward you some materials that you could pass on to your members at meeting. I look forward to hearing from, and thanks in advance!

Regards,

(Course Representative)
International Perspectives in Water Resource Management
IIHR-Hydroscience & Engineering

B.2: Letter to National Universities

Dear Colleagues,

I am pleased to announce the 8th installment of our multi-disciplinary international short course offered by the University of Iowa's College of Engineering and IIHR-Hydroscience and Engineering. *International Perspectives in Water Resources Management* is a course that can be taken for up to 3 credits through the University of Iowa's Study Abroad program, with the highlight of the course being the two-week visit to (host country) from (dates), exploring global issues in water resources.

We have enclosed a poster that we would appreciate being displayed in your departmental office, or wherever conveniently visible to your students and staff in (discipline, ex. civil and environmental engineering). If you have questions regarding the program, the poster, or anything related to the course, please do not hesitate to contact me (instructor name and email).

Thanks again for your help in recruiting for this exciting course, and please feel free to contact us in the future for similar recruiting needs.

Regards,

(Course Representative)
International Perspectives in Water Resource Management
IIHR-Hydroscience & Engineering

Appendix C

Survey Results

1) *What was your favorite experience of the trip?*

Answers for this were split into a few distinct groups. A small majority considered socializing to be the best part of the trip, mostly interacting with Chinese students but also socializing among the participants as well. A couple of people considered the Nanjing Hydraulics Institute to be the highlight of the trip. The rest of the group considered The Great Wall as well as the Shanghai night boat tour to be outstanding.

2) *Would you recommend IPWRM course?*

Everyone had an easy time answering this question. There was not one person who would not recommend the course. One person specifically had strong insight: “Definitely, it was probably one of the best trips I have ever been on and one of the most interesting and educational experiences of my life!” With statements such as this, this program will definitely bring in many new faces.

3) *Do you have any suggestions for further IPWRM trips? Explain.*

There were a few distinct responses to mention. A couple students thought that the projects should be completed before or during the trip. A few students mentioned about better tour guides (tour guides that can speak decent English).

4) *Do you think the cultural activities, sight seeing, and water resources aspect was well balanced? If not, how would you balance it?*

In general, everyone thought the balance between the different activities was perfect. One student felt there was not a strong emphasis on water resources but was fine with that. Another student would have preferred more time at the Nanjing Hydraulics Research Institute.

5) *What do you think of the length of the trip, 2 weeks? The pace?*

As for the length of the trip, some students felt fine with it whereas others would have desired an extra week. On average, people thought the pace was somewhat rushed and quick, but they did not mind that.

6) *Any negative feelings/experiences?*

For the most part, people thought there were not any bad parts to the trip. One student recalled the boat trip on the Yangtze being nasty. Another student had a detailed response: “I wish we would have had an English speaking guide with us for the entire trip, and maybe

not being passed off from one guide to another when changing cities. Also, I would have liked to know more about some of the hydraulic models and someone who could tell us more about them."

7) *How would you rate the organization of the trip? (On a scale of 1 to 5 and explain)*

No one ranked the trip organization below a 4. Most of the students reasoning for negative organization had to do with confusion among tour guides. However, one student had a relevant statement: "4 – needed to be more prepared for the overly impressive school visits." At all of the universities visited, especially in Wuhan, the Chinese students put forth a great amount of effort to make our stay welcome and enjoyable. While there was a project presentation describing student life at The University of Iowa, there was still a lack of preparation to appreciate the hospitality the students showed us.

8) *How prepared did you feel prior to the trip? Packing, meetings, projects, etc? (On a scale of 1 to 5 and explain)*

This question seemed to get the strongest responses. While some students put a 4 or 5, there was a couple that felt the preparation before the trip ranked a 3. They felt there was a lack of knowledge in regards to packing, and thus the students over packed. They also thought there was not a well defined plan for the projects prior to the trip.

9) *What aspect of the trip do you feel helped you grow culturally, professionally, etc.? Explain.*

The general consensus here was interacting with the Chinese students. From this experience, the American students were able to learn difference of culture in a first hand way.

10) *If you could change one thing about the trip what would it be? Explain.*

The answers for this had a wide range of thoughts. There were a few people who thought the trip was incredible and would not change a thing. There were others who thought the trip would have been much better with better tour guides at specific locations, or just one tour guide throughout the entire trip. One student would have wanted to learn more about the Three Gorges Dam. Another student would have wanted to see more models actually running, instead of visiting models that were not being used.

11) *Do you feel the course projects are well suited for the course? Explain.*

There were some mixed responses regarding the projects. Some students believed that the projects need not be so critical and detailed. Others figured the projects were set just fine. There were a few remarks against the projects. In one instance, a student felt that the projects were not well defined beforehand. Another student figured that the projects should relate more directly to a student's major. The student also stated that the projects should be mostly completed before departing on the trip. Finally, a student had an

interesting thought: “I thought the projects would have been done overseas, working at the actual places we were going to visit. Maybe that would be difficult to coordinate but I think that would be extremely beneficial for our development.”

12) *Do you feel the course should be open to more students? For example, a student not enrolled in engineering.*

This also had some mix responses. Where as some thought non-engineering majors would not understand or benefit from the course, others thought it should be open to anyone.

13) *Any other comments, suggestions, etc…*

Most students concluded the survey saying it was an amazing experience. One student had something poignant to explain: “Make sure people know things aren’t always going to go smoothly. You’re in a foreign country, you don’t speak their language, there are going to be hiccups, no need to stress things will even out in the end.” This remark is important because there have been a few situations where lack of communication and organization led participants to feel frustrated and angry.

Appendix D

D.1 Packing List

This list comprises some of the more common items needed for travel abroad and should be considered only as a guideline not as a complete list.

- **Bug spray –** This could be needed at any time regardless of the climate.
- **Rain jacket/suit** – Heavy or light depending on the weather most likely to be encountered abroad.
- **Dress clothes –** At least one outfit for a fancy dinner but can vary depending on the length of stay as well as the number of meals/events likely to occur. Optional: Dress shoes.
- **Comfortable walking shoes** – Because you will most likely be doing a lot of walking in various terrains, be sure to bring a pair that suits your need. If the weather in the country is warm, then a pair of sandals may also be appropriate.
- **Sunglasses** – Often overlooked but a necessity.
- **Hat** – Always useful if you will be outdoors often.
- **Camera –** If you have a digital camera make sure you have a large enough memory card to safely store all your photos as well a charger/batteries etc. If you use film be sure to bring more than you anticipate using.
- **Batteries –** If you are using any device that requires batteries be sure to bring extra or if you have rechargeable batteries bring the charger.
- **Power converter** – Some countries run on 110 Volts, others on 220 Volts. Some devices are not designed to handle 220 V, therefore a power converter which reduces the 220 Volts to 110 Volts would be needed. Refer to the manual specific to the device; if in doubt get a converter, which can be purchased at Radio Shack or other travel related retailers.
- **Power adapter** – Many countries have their own unique power outlets. In order to plug in your electric device you will need to have the proper adapter to convert its specific plug style to the power outlet. A variety of adapters can be purchased at Radio Shack as well as many other retailers.
- **Passport protector/Money belt** – Some of these carrying safety wallets can be placed around your neck or waist to ensure your passport and extra money is not misplaced or stolen.
- **Sun-block –** This is especially necessary since most travel involves a lot of time outdoors.
- **First aide kit –** Includes band-aides of varying shapes and sizes, anti-septic wash, antibiotic ointment, blister pads etc.
- **Toiletries –** Don't forget items such as a toothbrush, toothpaste, shampoo, soap, razor & foam, deodorant, comb etc. Having travel sized items is an option that can be useful if going on a weekend or day trip.
- **Towel/Facecloth –** Not all places of accommodation supply towels and those that do are not always as generous as you might like. Facecloths are rare. A lightweight (fast drying) towel, often used for camping or sporting events, can be found at a variety of sporting goods stores.
- **Long pants/long sleeved shirts** – No matter what season you travel, weather conditions can be unpredictable. Also, if insects are problem especially in countries where malaria is a risk, these long length clothing will be appropriate.
- **Clothing** – Try if possible to wear no "logo" clothing which is a sure way to look like an American tourist.

- **Plastic bags** – Necessary to pack clothing in groups and for dirty or wet clothing. Why unpack your whole suitcase to find a pair of socks?
- **Umbrella –** Goes along with a rain jacket.
- **Small notebook & pen –** Very nice to have if you need to take notes, write down directions etc.
- **Flashlight –** You never know when you might need one and is always a good idea to have one on hand.
- **Duct Tape –** For small or large repairs to just about anything.
- **Hand Sanitizer –** A very important item and should be carried with you at all times. Pack more than you think you need.
- **TP and Kleenex –** Traveled sized because not all countries have toilet paper provided and could help you out greatly.
- **Small travel alarm clock –** Speaks for itself and serves a good purpose.
- **Watch –** If traveling in large groups and are expected to meet at a common location at a specific time, then a watch is essential. Try, if possible, to bring an inexpensive one because you do not want to draw attention yourself.
- **Lightweight jacket/sweater –** Since temperatures can fluctuate, it is best to pack for dressing in layers.
- **Pre-printed address labels for postcards –** Very useful for sending postcards to loved ones.
- **Emergency telephone numbers –** Also useful because people tend to rely on having their cell phone, with stored numbers, with them at all times.
- **Sleeping bag/sleep sack** – If you are planning on staying anywhere but hotels, such as a hostel, having this item are a must.
- **Condoms** – If you may become sexually active while abroad, then these are essential.
- **Small bag/backpack –** If a short trip is required, it may be easier to pack in a small bag assuming your large bag is cared for when you are gone.
- **Feminine products –** You might not be able to trust products sold in other countries and therefore should bring as much as needed for your stay as well as extras.

D.2 Documents

The documents listed below are only the more important items and also should not be considered a complete list.

- **Itinerary –** A copy of the travel itinerary for your trip should be carried with you in the event you are ever separated from your group.
- **Passport copies –** Several photo copies of your passport should be brought in case it is misplaced or stolen. Pack these in a separate location from your passport.
- **Travel guides –** These can be picked up at your local bookstore or simply by browsing the internet. The more you know about destination the more prepared you will be upon arrival.
- **Maps –** If a map of your destination can be purchased prior to departing then by all means get one. These can be extremely useful if you become lost or simply want to plan ahead your daily activities.
- **Immunization record** – A copy of this to be taken abroad is recommended by the CDC and can be obtained from your healthcare provider.

D.3 Medications

Medications are often overlooked but are essential and should be planned well in advance to departing.

- **Immunizations –** Be sure to check with the Center for Disease Control and Prevention (http://www.cdc.gov/travel/) for a list of recommended/required immunizations for the country you will be visiting. Also, check with your healthcare provider well in advance to insure you have the proper immunizations as well as routine vaccinations. If you do not have a health care provider or your health care provider is unavailable, check with your local hospital or state health department.
- **Anti-malarial pills –** If traveling to a country with malaria a prescription for these may be necessary and can be obtained from your healthcare provider.
- **Prescriptions** – If you are taking any regular prescription drugs you should have enough to last the entire trip as well as extra (up to two weeks). Be sure your medication is legal in the country you are visiting (http://www.cdc.gov/travel/). Also, have a copy of your prescription from your healthcare provider. Another word of advice: pack your medications in your carry-on luggage but also be aware heightened security measures at the airport.
- **Ibuprofen –** Or whatever type of medicine you use for headaches, muscle pain, fever reducer etc.
- **Stomach medicine –** More than likely, you will be eating foods that are new to you! Be sure to include Pepto Bismol, Tums, Pepsid AC, Imodium AD or whatever you will need to help your body adapt to these new tastes.
- **Antihistamine Cream** – This is especially useful for bug bites and rash.

D.4 Currency

You should plan well ahead to ensure you have enough money and a way to access it whenever needed. The most common ways to access money while abroad are highlighted here but this is not, however, all of the options available.

- **Traveler's checks** – These can be purchased at a bank or currency exchange. Some remote countries do not have ATM machines, so you may need to plan on bringing enough money for all of your spending needs. But either way, having at least some money in traveler's checks is a must.
- **Credit cards** – Bring a minimum of two credit cards, preferably of different types (VISA, MasterCard, etc.) However, please note that not all places accept credit cards. Be sure to have another means of paying at all times.
- **ATM cards** – Don't depend on your ATM card, since not all countries accept them! Before departing be sure to check with your bank for available ATM locations and what to expect in service fees.
- **Cash** – If you plan to use your own currency while traveling, please realize that it may be difficult to find convenient, reasonable currency exchange locations. Many airports and some hotels have currency exchanges but these are sometimes unreliable and the fees charged tend to be high. Be sure to plan for any duty fees you may be charged when you return home.

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