

# GLOBAL PRODUCT DEVELOPMENT GPD 2007

**Good Morning!**

**Guten Tag!**

**안녕하세요**

**(Ahn Nyung Ha Se Yo!)**



# Agenda



Faculty  
Introductions



Background



Course  
details



Local issues

# Seoul National University



Sukwon  
Cha



Seungbum  
Ha



Jongwon  
Kim



Dongmok  
Kim

# Technical University of Berlin



Geunther  
Seliger



Semih  
Severengiz

# University of Michigan



Deba  
Dutta



Lalit  
Patil



Kazuhiro  
Saitou

Faculty  
Introductions



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Local issues

# Globalization

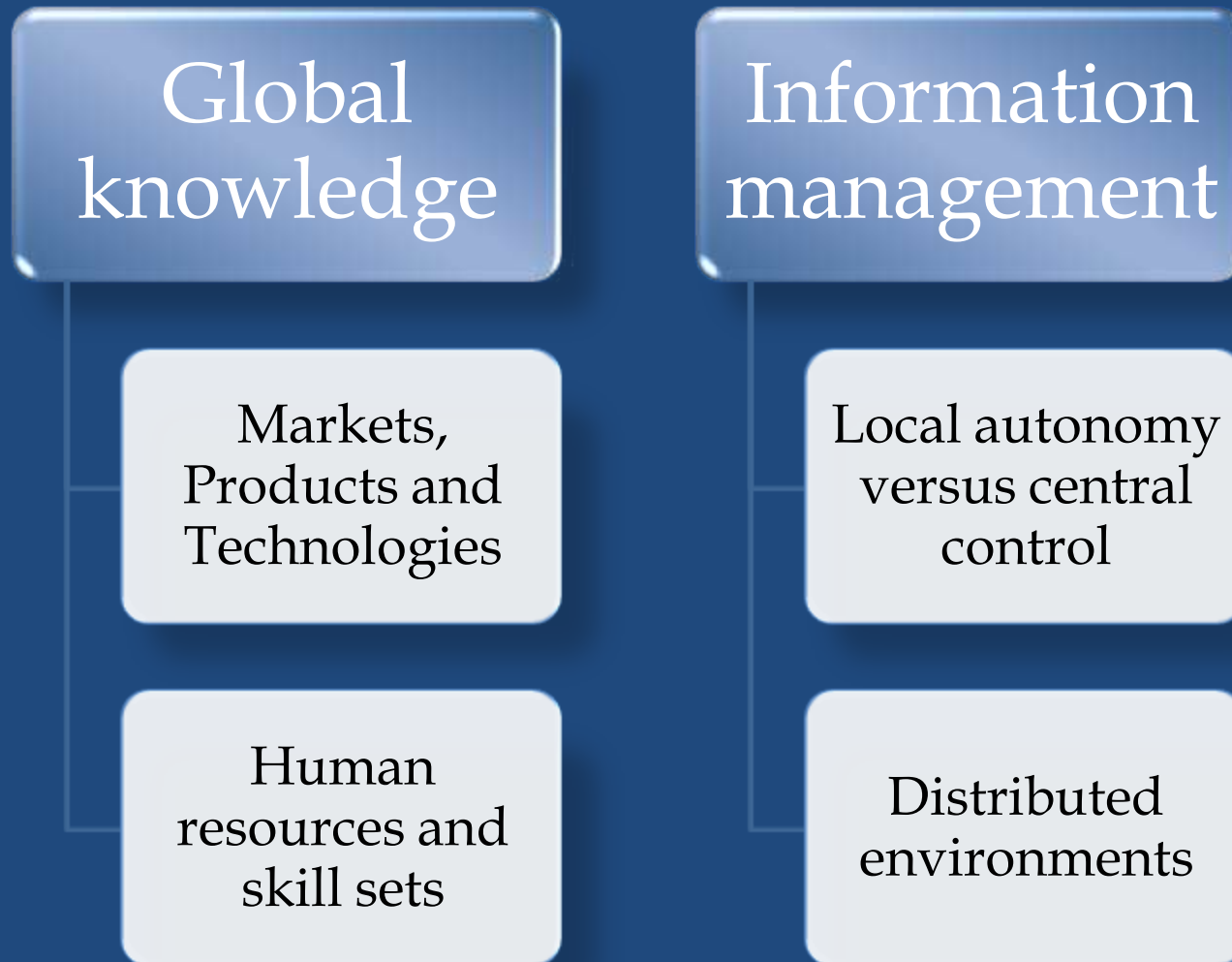
- ▣ **process** of interaction and integration among the people, companies, and governments of different nations,
- ▣ **driven by** international trade and investment
- ▣ **aided by** information technology.
- ▣ **affects** the environment, culture, ..., human physical well-being in societies around the **world**



# This new world

- ▣ **of Global Innovation** is having a profound impact on the way companies do business and countries capture economic wealth
- ▣ includes companies that are investing globally for R&D, engineering, production
- ▣ is changing patterns of global demand

# The challenges



# The challenges

Understanding  
the customer's  
wants

New customers  
with varying  
preferences

Acquisition and  
use of local  
knowledge

Respecting  
cultural  
differences

One size does  
not fit all...

Accept (global)  
diversity



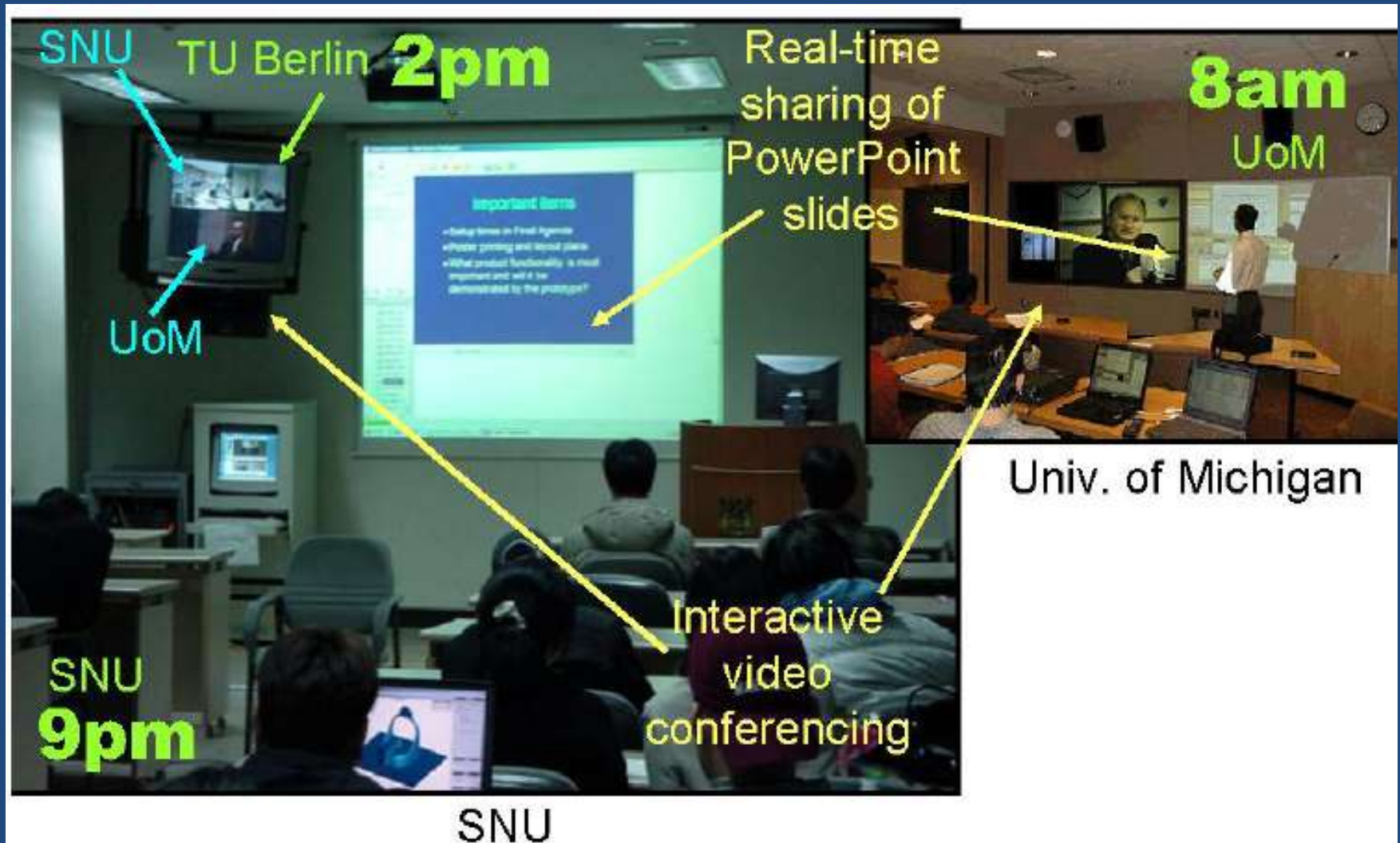
William Wulf, President, National Academy of Engineering

- I think it is only a slight exaggeration to say that our students are being prepared for practicing engineering in a world that existed when we were trained, but not for the 21st century.

## John Dewey (1916)

- We never educate directly, but indirectly by means of the environment. Whether we permit chance environments to do the work, or whether we design environments for the purpose makes a great difference

# GPD course setup: Global Classroom



# Student interaction

**1. General Idea**

- Base Computer**
  - Server
  - Control Radio Device
  - Save voice file
- Radio Device**
  - Disk drive similar to remote controller)
  - Control RF
  - Translate wave file
- Radio Frequency Device**
  - Translate Input-Output data for wireless connect)
- Micro Processor**
  - Play voice files
  - Save voice file

How 'press points here?'  
How 'press adjustment?'  
Send



# Two main components

Lectures

Semester-long  
project

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Lectures

Semester-long  
project

# Lectures

Part-I:  
Product  
Conceptualiz  
ation/Design  
(September)



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graph LR; A[Part-I: Product Conceptualization/Design (September)] --> B[Part-II: Product Engineering (October)]; B --> C[Part-III: Product Manufacturing and Distribution (November)];
```

Part-II:  
Product  
Engineering  
(October)

Part-III:  
Product  
Manufacturi  
ng and  
Distribution  
(November)

# Lecture Format

- ▣ Intermingled with industrial case studies and analysis
- ▣ Various departments as well as companies
- ▣ Background reading will be assigned as appropriate
- ▣ **No textbooks**

# Part-I: Product Conceptualization & Design (September)

Understanding  
the global  
market/culture

Systematic  
product  
innovation

Team work

Project  
management

Patents and  
product  
liability

Conceptual  
design

# Part-II: Product Engineering (October)

Material  
selection

Design for  
quality and  
manufacturing

Robust Design

Eco design

# Part-III: Product Manufacturing and Distribution (November)

Eco  
Manufacturing

Supply chain  
management

Product lifecycle  
Management

Business plan

Entrepreneurship

# Course Coverage

Time will not permit a comprehensive coverage of the topics

- you are encouraged pursue reading material on your own (on relevant sub-topics that interest you)
- share findings with the class

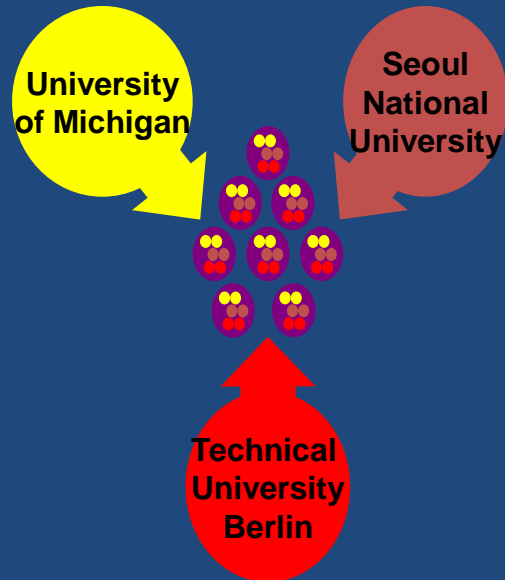


# Two main components

Lectures

Semester-long  
project

# Course Project



## 8 global teams

- Distributed cross-cultural collaboration
- Working across time zones
- Two face-to-face meetings

## 8 global products

- Varying customer requirements
- Varying product components
- Varying manufacturing ...

# Team meetings

## Time

- Student teams decide for themselves, usually, early morning in the US

## Electronic tools

- Team decision
- Video conference: 30 minutes to every team every week

# Face-to-face meetings

## Kick-off meeting

Oct 01 – Oct 05 at  
Seoul, Korea

Meet teammates  
from TUB and SNU

Team work, other  
lectures

**Everyone must be  
at Seoul**



## Final meeting

Dec 2 – Dec 7 at Berlin,  
Germany

Presentations, prototype  
exhibition

**Everyone must be at Berlin**

# Course Deliverables

## Project Proposal (Sep 20)

- Market analysis
- Candidate ideas

## 1st Design Review (Oct 05)

- Competitor analysis
- Conceptual design

## 2nd Design Review (Nov 06)

- Detailed design

## 3rd Design Review (Dec 07)

- Manufacturing and business plan
- Prototype exhibition

# Quotes from students

## Team 8 (2005)

- Each team member learned valuable technical and personal skills. The dynamics and setting of the class are truly extraordinary and we all have had an unforgettable experience.

## Brian Trease (2002)

- All in all, it was an amazing class. More than just a class, it was an experience that did more than any textbook could to change one's perspective on engineering design.

## Team 7 (2007)

- Working with teams in Germany, Korea and United States has given us an insight into the true nature of Globalization ... Teamwork in an international team comprising students from three different continents opens a whole new perspective to “working” in general.

Sign-off for local  
issues