



THE UNIVERSITY *of* TENNESSEE



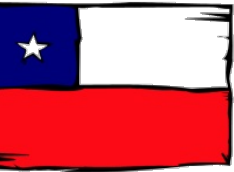
Lean Enterprise Summer Program

DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING

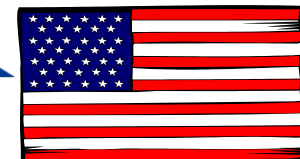
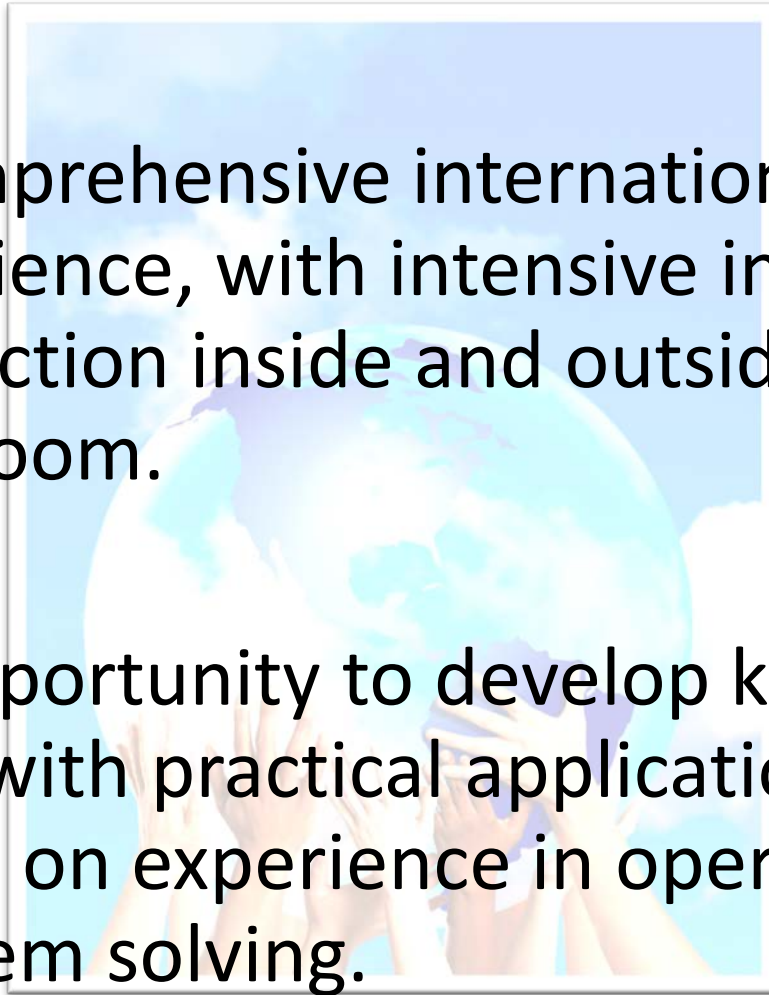


utlean.utk.edu

Lean Enterprise is...




- A comprehensive international experience, with intensive intercultural interaction inside and outside the classroom.
- An opportunity to develop knowledge in Lean with practical applications, through hands on experience in operations problem solving.





What Does It Include?

- Courses
 - Class materials
 - Mentorship during the program
 - Industrial fieldtrips & transportation to project companies.
-
- Meals - \$400 USD for consumption
 - Card valid as well for grocery shopping
 - Lodging – 28 nights
 - Access to academic and recreational facilities
- 

Modules

| Module | Week |
|-------------------------------------------|-------|
| • Fundamentals of Lean Enterprise Systems | 1 |
| • Designing & Modeling of Lean Systems | 2 & 3 |
| • Analysis of Lean Systems | 3 & 4 |
| • Reliability of Lean Systems | 4 |
| • Project oriented week and presentations | 5 |

Topics

- Fundamentals of Lean Enterprise Systems
 - Introduction to Lean
 - Lean Goals
 - Reduce Lead Time
 - Reduce Variation
 - Change Through People
 - Lean Tools
 - Categories template
 - Tools
- Designing & Modeling of Lean Systems
 - Lean Concepts
 - Toyota Production System
 - Value Stream Mapping
 - Current State
 - Future State
 - Roadmap
 - Lego Simulation
 - A3 forms
- Reliability of Lean Systems
 - DRIVES model
 - Theory of Constraints
 - Quality & Delivery Assessment
 - Project Management
 - Root-Cause Analysis
 - Lean Six-Sigma
 - Releability
- Analysis of Lean Systems
 - Process simulator (Pro-model) Simulation
 - Lean matrix
 - Simulation Towards Lean

General Dates 2015

| Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | Sunday | |
|-----------------|----|-----------------|----|-------------------|----|-----------------|----|----------------------------------------------|----|-------------------|----|----------------|----|
| | 29 | | 30 | | 1 | | 2 | | 3 | | 4 | | 5 |
| On-Line session | | On-Line session | | On-Line session | | On-Line session | | Early Check-In (extra cost) Travel Day | | Check-in | | Late Check-in | |
| | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 |
| Opening Ceremon | | Classrm session | | Classrm session | | Classrm session | | Visit | | | | | |
| | | Project | | Project (not all) | | Project | | | | | | | |
| | 13 | | 14 | | 15 | | 16 | | 17 | | 18 | | 19 |
| Classrm session | | Classrm session | | Classrm session | | Classrm session | | Visit | | | | | |
| Project | | Project | | Project | | Project | | | | | | | |
| | 20 | | 21 | | 22 | | 23 | | 24 | | 25 | | 26 |
| Classrm session | | Classrm session | | Classrm session | | Classrm session | | Visit | | | | | |
| Project | | Project | | Project | | Project | | | | | | | |
| | 27 | | 28 | | 29 | | 30 | | 31 | | 1 | | 2 |
| Classrm session | | Classrm session | | Project | | Presentations | | Presentations | | Check-out (JUL 4) | | Late Check-out | |
| Project | | Project | | All day | | All day | | Closure reception | | | | | |

- Classes, visits and project visits are subject to change.

Instructors Team



Dr. Rupy
Sawhney



MS. Isaac
Mitchell



MS. Bharadwaj
Venkatesan



MS. Enrique
Macias de
Anda

CENTER for INDUSTRIAL SERVICES

Experienced consultants from CIS



Misty DePriest

University of Tennessee Knoxville campus





CITY OF KNOXVILLE

www.ci.knoxville.tn.us





McGhee Tyson Airport

What Is Needed For Travel?

- Documents
 - B1/B2 VISA
 - Passport
 - **INSURANCE.** We suggest Travel Guard
<http://www.travelguard.com/travelinsurance/international.asp>
 - Supporting documents:
 - If available, a letter or any document that proves affiliation as a student at a university.
 - Welcome and customs letters.



U.S. VISAS

U.S. DEPARTMENT OF STATE • BUREAU OF CONSULAR AFFAIRS

 SEARCH

- Tourism & Visit
- Business
- Employment
- Study & Exchange
- Immigrate
- Other Travel
- Set Location
- Set Nationality

Need Help Getting Started?

Many non-U.S. citizens need a visa to enter the United States to visit, work, and live. Why do you want to travel to the United States?

TRY OUR VISA WIZARD ▶

[What is a U.S. Visa?](#)

Travel to the United States

- Tourism & Visit: B, Visa Waiver, ESTA Application
- Business: B, Visa Waiver, ESTA Application
- Employment: E, H, I, TN/ID, J
- Study & Exchange: F, M, **B**
- Immigrate: Family, Intercountry Adoptions, Employment, Diversity Visa

[Find a U.S. Embassy or Consulate](#) [See All Visa Categories](#)

usvisas.state.gov



Residence Hall



At UT

- TRECS – access with ID card.
 - <http://recsports.utk.edu/Programs/Facilities/trecs/index.php>



- Library



What happened in the past?

Process

VSM

We have heard
Recommendations to
analyze process
14 combiners

Base
Short ASM
Long ASM

Colover

People

- 1 Base Assembler
- 1 Short ASM Assembler
- 1 Long ASM Assembler
- 1 Finished Assembler
- 1 Inspector
- 1 Distributor
- 1 Delivery
- 1 Colover

PAKT Line - Process
Half man
(free combiner)

| Order Qty | Lot Size | Time | Final Cost |
|-----------|----------|------|------------|
| 1 | | | \$100 |
| 2 | | | \$100 |
| 3 | | | \$100 |

STEP 2: FOCUS ON FLOW

- Line balancing.
- Work cells.
- Production control.
- Improvements.



Team Leaders 2014

| Company | Team Leader | Country |
|------------------------|---------------------------|----------|
| Children's Hospital | Zhibo Tan (Tina) | China |
| RF Solutions (Ten-Tec) | Yuting Li (Ryan) | |
| Aqua-Chem | Xiaojuan Zhu (Julia) | |
| Techmer PM | Wolday Abrha | Ethiopia |
| Pharma Packaging | Dhanush Agara Mallesh | India |
| Vinylex | Abhishek Chimalapati | |
| Carlex | Dinesh Patlolla | |
| DeRoyal | Vahid Ganji Lisar | Iran |
| Johnson Matthey | Ali Mohammadhashemi | |
| MasterCraft | Mohammad Ali Asudegi | |
| Reily Foods | Mostafa Ghafoori Varzaneh | Nepal |
| Advanced Catalysts | Girish Upreti | |



Projects 2011

CENTER for INDUSTRIAL SERVICES



26 students
4* companies
6 projects



FULTON BELLOWS, LLC



Projects 2012

CENTER for INDUSTRIAL SERVICES



91 students
8 companies
18 projects

JOST



Fulton

FULTON BELLOWS, LLC



Homesteader

Energizer[®]
Personal Care



Projects 2013

CENTER for INDUSTRIAL SERVICES

84 students
7 companies
16 projects



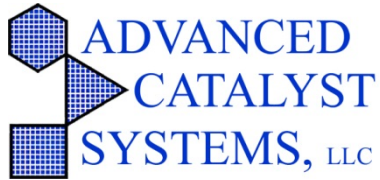
FULTON BELLOWS, LLC



Projects 2014

CENTER for INDUSTRIAL SERVICES

98 students
12 companies
23 projects



TECHMER PM
POLYMER MODIFIERS



Improving Care. Improving Business.

Carlex



Bringing Family and Friends Together Since 1902





Facility Tours





Final Ceremony



CLASS
of 2011



CLASS OF 2012



CLASS OF 2013



BIG ORANGE.
BIG IDEAS.

BIG ORANGE.
BIG IDEAS.

BIG ORANGE.
BIG IDEAS.

CLASS OF

2014





Come to the
**LEAN
ENTERPRISE
SYSTEMS
SUMMER
PROGRAM**

and light up
the **TORCH**

of your
FUTURE