

Global Engineering and the Social Context

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My Background

- BS (Mech. Eng) – UON, Kenya
- MS (IMS) – Brunel University, UK
- PhD (Mech. Eng) – UNH, New Hampshire

- Studied abroad, Kenya, UK
- Kenya Study Visit, 2013
- Fulbright Scholar 2014-15, Zambia

Background

“Studying abroad is as important as learning to swim, particularly for Americans. Managing the tumult of a different land, struggling with a language, cultivating an abiding sense of curiosity and humility – these are modern-day survival skills in an inter-connected world.”

Amanda Ripley, author of The Smartest Kids in the World-and How They Got That Way

“There’s no more important skill to succeed in the 21st century than a global mindset, and there’s no better way to develop a global mindset than studying abroad.”

Angel Cabrera, President, George Mason University, Fulbright Scholar, and author of Being Global: How to Think, Act, and Lead in a Transformed World

Meaningful International Experience the Rose-Way

A sustained interactive encounter with people in a country different from one’s own which has the desired effect of contributing to a student’s preparedness for a career in the global workplace.

1. Substantial – demonstrable outcomes
2. Certifiable
3. Accessible – realistic availability to every student

RHIT Global Vision

Goal 4: Rose-Hulman will be a diverse, globally-connected, sought-after community in which to live, learn, and work.

- **Strategy 4A**
 - Enhance the campus cultural environment of inclusiveness and achieve goals for the diversity of our student body, faculty, and staff.
- **Strategy 4B**
 - Provide more opportunities for community members to experience the world and its diversity.
- **Strategy 4C**
 - Become a globally connected community with a physical presence outside the United States.
- **Strategy 4D**
 - Be a great place to work and the employer of choice for prospective employees.

RHIT Student Learning Outcomes

RH4. Cultural and Global Awareness

- ❖ Criterion A1: Engage in the arts (music, theater, dance, etc.)
- ❖ Criterion B1: Analyze patterns, dynamics, or values of human interaction in social or cultural systems
- ❖ Criterion B2: Analyze beliefs, backgrounds, cultures, or societies different from your own
- ❖ Criterion B3: Interpret cultural artifacts and/or ideas in philosophy, the arts, or the sciences
- ❖ Criterion C1: Explain the challenges you faced in a cross-cultural interaction

RHIT Global Engineering Initiatives

- **Faculty-led programs**
 - Computing in a global society
 - Chinese view of computing
 - Kenya Field Study
 - Japan Study Program
 - Study Program in Peru
- **Dual Degree Programs**
 - MS – Ulm University of Applied Sciences, Germany
 - MS – Seoul National University of Science and Technology, South Korea
 - BS – International Computer Science – Ulm University of Applied Sciences, Germany

RHIT Global Engineering Programs

- **Engineers Without Borders, USA**
- **Study Abroad**
- **Exchange Program Partners**
 - Germany
 - Japan
 - Sweden
 - Turkey
 - China
 - South Korea
 - Global Engineering Education Exchange (Global E³)

Challenges

- Developing metrics that cover the breadth of programs
- Making it meaningful
- Making it affordable
- Establishing equivalency of credits for transfer
- Getting all students to have a meaningful international experience before graduation
- When?

| | Fall: | Winter: | Spring: |
|--------|---|--|--|
| Junior | <ul style="list-style-type: none"> ◆ ME 301 Thermodynamics II ◆ EM 204 Statics and Mechanics of Materials II | <ul style="list-style-type: none"> ◆ ME 317 Design for Manufacturing ◆ ME 321 Measurement Systems | <ul style="list-style-type: none"> ◆ ME 302 Heat Transfer ◆ ME 323 Computer Applications II |
| | <ul style="list-style-type: none"> Tech Elective Free Elective | <ul style="list-style-type: none"> ◆ ME 323 Computer Applications II ◆ ME 328 Materials Engineering RH 330 Technical Communications | <ul style="list-style-type: none"> ◆ ME 321 Measurement Systems ME 470 Engineering Design Proc. & Method ME 480 Machine Component Design HSS Elective |
| | <div style="border: 1px solid green; padding: 5px; display: inline-block;"> Junior year is the best possible time to study abroad for ME majors. </div> | | |
| | | <ul style="list-style-type: none"> split winter or spring with split winter or spring with HSS Elective | <ul style="list-style-type: none"> split winter or spring with split Jr. spring or Sr. fall with split winter or spring with RH 330 Technical Communications |