Models for Preparing the Global Workforce

ABET conference, October 26, 2011,
Baltimore, MD

Sigrid Berka, Executive Director
International Engineering Program
International Engineering @ URI

- 5-year Dual Degree
- B.S. in engineering
- B.A. in foreign language
- Semester study abroad
- 6-month paid internship abroad
Five-year Dual Degree Program

Bachelor of Science in Engineering

- Biomedical
- Chemical
- Civil
- Computer
- Electrical
- Industrial
- Mechanical
- Ocean
Five-year Dual Degree Program

Bachelor of Arts in Foreign Language

Chinese
French
German
Spanish
IEP Statistics

~287 Undergrad IEP students

~1/4 of all engineering undergrads are IEP students

~1/3 are women

300+ graduates since 1987

Rhys Goff, MCE GIEP '12
In front of the Reichstag in Berlin
Percentage of majors in language courses as part of the IEP

<table>
<thead>
<tr>
<th>Language</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>French</td>
<td>140</td>
</tr>
<tr>
<td>German</td>
<td>90</td>
</tr>
<tr>
<td>Spanish</td>
<td>120</td>
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The chart shows the number of students enrolled in language courses as part of the IEP for French, German, and Spanish, with bars indicating the number of students taking IEP courses and the total number of students.
PERCEPTRUAL - IEP Marketing survey for first yr. students:
What about the IEP made it stand above other engineering programs you were considering?
Maximizing preparation for global work force (Sheida Danesh. Mech. Eng. & German)

- Begin working at **Hexagon Metrology** in Rhode Island (also known as Brown and Sharpe) **Summer after 2nd/3rd yr.**
- Arrival in Germany for year abroad **Fall 4th yr.**
- Begin studying at TU-BS and working at Metrology Research Institute **Fall 4th yr.**
- Globalize- Begin 6 month internship at **Hexagon Metrology** in Germany (also known as Leitz Messtechnik); design of new temperature sensor **Spring 4th yr.**
- Begin MCE 401 Capstone Design Project sponsored by Hexagon Metrology **Fall 5th yr.**
- GRADUATE SCHOOL: MIT

AFTER GRADUATION
2011-12 ABET criteria for engineering programs: student learning outcomes

- (a) an ability to apply knowledge of mathematics, science, and engineering
- (b) an ability to design and conduct experiments, as well as to analyze and interpret data
- (c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (d) an ability to function on multidisciplinary teams
- (e) an ability to identify, formulate, and solve engineering problems
- (f) an understanding of professional and ethical responsibility
- (g) an ability to communicate effectively
- (h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering
“In global, multicultural organizations, simply expecting all employees to speak one common language, such as English, marginalizes the potential impact of international talent and leave monolingual staff ill-equipped to help the organization compete effectively in a globalized environment.”
Alumni Survey to 221 GIEP graduates >`93: Impact of IEP program on their career

Positive impact of IEP program

- Strong impact on my entire career: 56%
- Strong impact on my early career: 7%
- Moderate impact on my entire career: 15%
- Moderate impact on my early career: 15%
- No impact on my career: 7%
IMPACT – ALUMNI SURVEY -- IEP graduates: Importance of international experience for initial job offer

How important was your international experience in earning your first job offer?

- 17% It was the decisive factor
- 42% It was an important factor
- 30% It was not a very important factor
- 11% It was not important at all