Proceedings

Enhancement of the Global Perspective for Engineering Students by Providing an International Experience

Engineering Conferences International Year 2003

Monterrey Tech’s International Strategy

Teofilo Ramos Enrique Zepeda
Monterrey Tech Monterrey Tech

This paper is posted at ECI Digital Archives.
http://dc.engconfintl.org/enhancement/9
Monterrey Tech’s
International Strategy

Dr. Teofilo Ramos
Dean of Institutional Effectiveness

Dr. Enrique Zepeda
Vicepresident for International Affairs

April 6-11, 2003
Tomar, Portugal
The Mexican Educational System
## Students in the Mexican educational system

<table>
<thead>
<tr>
<th>Level</th>
<th>Millions</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre school (2 years)</td>
<td>3.36</td>
<td>12.2%</td>
</tr>
<tr>
<td>Primary schools (6 years)</td>
<td>14.70</td>
<td>53.2%</td>
</tr>
<tr>
<td>Secondary School (3 years)</td>
<td>5.07</td>
<td>18.3%</td>
</tr>
<tr>
<td>Vocational school (3 years)</td>
<td>.39</td>
<td>1.4%</td>
</tr>
<tr>
<td>Preparatory school (3 years)</td>
<td>2.41</td>
<td>8.7%</td>
</tr>
<tr>
<td>Teacher's school (4 years)</td>
<td>.21</td>
<td>0.8%</td>
</tr>
<tr>
<td>Undergraduate (4-5 years)</td>
<td>1.48</td>
<td>5.0%</td>
</tr>
<tr>
<td>Graduate school (2 years)</td>
<td>.11</td>
<td>0.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>27.73</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Undergraduate student population by field of study

- Education & Humanities: 57,364 (3.9%)
- Health Sciences: 131,840 (8.9%)
- Agricultural Sciences: 38,759 (2.6%)
- Natural Sciences: 30,002 (2.0%)
- Engineering & Technology: 481,543 (32.5%)
- Business and Social Sciences: 742,491 (50.1%)

TOTAL: 1,482,000
- Public: 72.4%
- Private: 27.6%
Undergraduate programs with the highest population

- Law 170,304
- Public Accountant 154,455
- Business 142,037
- Industrial Engineering 57,134
- Informatics 55,446
- Architecture 48,422
- Medicine 42,030
- Electronic Engineering 39,894
- Computer Engineering 35,263
- Civil Engineering 34,593
### Student population in public & private universities

<table>
<thead>
<tr>
<th>Type of University</th>
<th>Student Population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Universities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Universities</td>
<td>1,037,000</td>
<td>72.4%</td>
</tr>
<tr>
<td>Institutos Tecnológicos (73)</td>
<td>153,508</td>
<td></td>
</tr>
<tr>
<td>UNAM (National University)</td>
<td>135,261</td>
<td></td>
</tr>
<tr>
<td>Univ. de Guadalajara</td>
<td>73,247</td>
<td></td>
</tr>
<tr>
<td>Inst. Politécnico. Nacional</td>
<td>58,899</td>
<td></td>
</tr>
<tr>
<td>Univ. de Nuevo León</td>
<td>52,082</td>
<td></td>
</tr>
<tr>
<td><strong>Private Universities</strong></td>
<td>355,000</td>
<td>27.6%</td>
</tr>
<tr>
<td>Monterrey Tech System (29)</td>
<td>46,174</td>
<td></td>
</tr>
<tr>
<td>Univ. Tecnológica de México</td>
<td>19,388</td>
<td></td>
</tr>
<tr>
<td>Univ. Valle de México</td>
<td>18,731</td>
<td></td>
</tr>
<tr>
<td>Univ. Iberoamericana</td>
<td>18,445</td>
<td></td>
</tr>
<tr>
<td>Univ. Lasalle</td>
<td>8,418</td>
<td></td>
</tr>
</tbody>
</table>
The Monterrey Tech University System
Monterrey Tech System

- Founded in 1943
- Private institution
- 130,702 alumni
- 7,526 faculty
- 88,251 students
33 campuses
In Mexico
The Institute is supported by the community

- 426 trustees
- 26 non-profit associations
- 1,233 associates
Monterrey Tech System

88,251 students

- 12% graduate students
- 61% undergraduate students
- 27% preparatory school students
Monterrey Tech System

Programs offered

- 8 PhD programs
- 51 master programs
- 35 undergraduate programs
- 3 preparatory school programs

Areas of study include: engineering, computer science, business administration, law, humanities, medicine and food technology.
Monterrey Tech System

Alumni

- 109,149 bachelor degrees awarded
- 21,553 master and doctoral degrees awarded

7,256 Faculty members

- 98% of the undergraduate courses taught by faculty with a higher degree
- 99% of the graduate courses taught by faculty with a PhD degree.
Mission 2005

- To educate individuals to be
  - committed to the development of their communities
  - internationally competitive

- To carry out research relevant to the development of the country
Monterrey Tech Mission

• Strategies

• 1. Redesign of the teaching-learning process
• 2. Research and extension
• 3. The Virtual University (VU)
• 4. Internationalization
• 5. Continuous improvement
• 6. Growth
Redesigning the teaching/learning process

- To develop the characteristics in the student profile in a planned way
- values: honesty, responsibility, work ethics...

- abilities: independent study, analysis and synthesis, problem solving, use of information technologies...

- collaborative performance: collaborative learning groups, teamwork...

- commitment to development: awareness of Mexico’s needs, commitment to act as an agent of change...
**SCHEDULE**
- First week
- Second week
- ...

**EVALUATION**
- Exam
- Self-evaluation
- Group evaluation
- Exams

**TECHNOLOGY**
- LearningSpace, Blackboard
- Multimedia-CD ROMs
- E-mail
- Teleconferences
- Digital libraries
- Chat groups

**KNOWLEDGE OBJECTIVES**
- Entrepreneurship
- Commitment to Mexico’s development
- Honesty
- Responsibility for change
- Collaboration
- Quality culture

**FORMATIVE OBJECTIVES**

**Teaching methodologies**
- Lectures
- Assignments and projects
- Collaborative groups
- Discussion groups
- Problem-Based Learning
Educational Philosophy

Knowledge

Intellectual and communication abilities

Attitudes and values
The learning process is centered on the student
... and on collaborative learning
Techniques in redesigned courses

- Lecture
- PBL
- Case study method
- Project oriented learning
- Self evaluation
- Group evaluation
- Academic behavior codes
Monterrey Tech’s
International Strategy

Dr. Teofilo Ramos
Director of Institutional Effectiveness

April 6-11, 2003
Tomar, Portugal

Dr. Enrique Zepeda
Vicepresidency for International Affairs
Monterrey Tech strengthens its international character through ...

- The international outlook of faculty and students
- The academic experience abroad of its students
- The international experience of its faculty and staff members
- The involvement of foreign faculty in classes, seminars and conferences
Monterrey Tech strengthens its international character through ...

- The emphasis on the knowledge of the English language by students, faculty and staff managers.

- The promotion of academic programs, research and continuing education programs in conjunction with international universities on areas of high priority for Monterrey Tech and relevant to our country’s development.
Study Abroad Programs for ITESM Students

- International Certificates
- Missions
- Student Exchange
- Internships
Benefits for our students

- Global vision
- Knowledge of other cultures
- Contact with international faculty and different educational models
- Development of skills to effectively interact with people from other cultures
- Knowledge of a foreign language
- Greater appreciation for our culture, country and Institution
Monterrey Tech students abroad

- 1999: 875
- 2000: 1,246
- 2001: 1,300
- 2002: 1,730

1,922

878

827

1,250

2,993

3,462

1,703

2,394

6,895

3,624

4,518

5,543

Monterrey Tech students abroad

- 1999: 875
- 2000: 1,246
- 2001: 1,300
- 2002: 1,730

1,922

878

827
Monterrey Tech students abroad

Spain: 23%
Canada: 18%
France: 17%
United States: 15%
Italy: 6%
UK: 6%
Other countries (28): 15%

6895 students abroad in 2002
Monterrey Tech programs for foreign students

- Academic Programs
- Spanish classes
- Courses on mexican culture, business in Mexico and Latinamerica
- International Certificates
- Internships
- Student Exchange
Foreign students at Monterrey Tech
Foreign students at Monterrey Tech

United States: 57%
France: 15%
Canada: 6%
Germany: 6%
Spain: 3%
Holland: 3%
Other countries (30): 11%

3909 foreign students in 2002
International Academic Development for Faculty

I. Training Abroad Program (PCE)

Advanced Intensive English Teaching Techniques
- Special projects
Continuing education

II. Academic Missions Program

Its objective is to bring the opportunity for faculty, and staff managers from ITESM to know the best and most successful practices in their areas of expertise
International Academic Development

III. Academic Exchange Program

To promote participation of our faculty on research and special projects with international universities and schools abroad

IV. Scholarships and International Congress

Its objective is to advise our faculty and administrative personnel on the search of scholarships and grants for special research projects
## ITESM Faculty

<table>
<thead>
<tr>
<th>Program</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Techniques</td>
<td>41</td>
<td>152</td>
<td>298</td>
<td>288</td>
</tr>
<tr>
<td>Continuing education and special projects</td>
<td>5</td>
<td>35</td>
<td>13</td>
<td>145</td>
</tr>
<tr>
<td>English as a Second Language</td>
<td>142</td>
<td>63</td>
<td>68</td>
<td>136</td>
</tr>
<tr>
<td>Academic Missions</td>
<td>10</td>
<td>41</td>
<td>31</td>
<td>4</td>
</tr>
<tr>
<td>Academic exchange programs, congresses, seminars, research and other forums</td>
<td>767</td>
<td>767</td>
<td>805</td>
<td>1,135</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>965</td>
<td>1,058</td>
<td>1,215</td>
<td>1,708</td>
</tr>
</tbody>
</table>
ITESM faculty abroad

By country

USA 45%
Canada 8%
Ecuador 5%
Other countries 19%
France 4%
Spain 8%
Germany 2%
United Kingdom 3%
Holland 8%
Spain 6%
United Kingdom 3%
Total during 2002: 1,708
Foreign Faculty at ITESM

- Teach English classes
- Enrich our campus’ life by creating an international environment
- Contribute to enhance our academic life with their intercultural competencies
- Present opportunities to develop new liaisons with their home universities
- Participate in joint research and extension projects
International Liaison Offices

Vancouver
Montreal
Boston
Washington
París
Madrid
Hangzhou
Singapur
Vancouver

✓ Geographic scope
  ▪ Western Canada
  ▪ Northwest USA

✓ Focus areas
  ▪ International relations (Asia-Pacific and Northamerica)
  ▪ Ecosystems and Environmental studies
  ▪ Educational technology

Washington

✓ Geographic scope
  ▪ Metropolitan area of DC
  ▪ Eastern USA

✓ Focus areas
  ▪ Social Sciences (International relations, Political science and Northamerican studies)
  ▪ Humanities (Ethics and Philosophy)
  ▪ Stock market and finance
  ▪ Relations with international organizations and associations
Boston

- Geographic scope
  - New England
  - Midwest USA

- Focus areas
  - Public administration and Public Policy
  - Engineering
  - Ethics
  - Economics

Dallas

- Geographic scope
  - Mexico-USA border states
  - Central Europe
  - Special assignments on southeast Asia and China

- Focus areas
  - Computer science
  - Industrial engineering
  - Management
  - International relations
Paris

✔ Geographic area
  - France
  - Holland, Belgium and Luxemburg
  - United Kingdom
  - The Baltic Rim
  - Germany

✔ Focus areas
  - PBL – POL
  - Management (European Union)
  - Economics
  - Public administration
  - Mechatronics

Madrid

✔ Geographic area
  - Spain
  - Portugal
  - Italy

✔ Focus areas
  - Humanities (Ethics and Philosophy)
  - Law
  - Economics
  - Architecture
  - Industrial design
The Internationalization contributes ...

To facilitate the international competitiveness of our alumni so as to effectively face the challenges of a globalized world.

To update and increase the academic profile of our faculty through the pursuit of PhD’s and Master’s degrees, international experiences and competencies, educational innovation and fluency in English.

To consolidate ITESM’s presence and prestige on the international scenario.
Information Systems to support the internationalization process

- Support for the main operating processes
- Information and promotion of our programs
- Information accessible for the whole Monterrey Tech community
http://www.itesm.mx/extranjero/

## Oportunidades en el Extranjero

En la siguiente tabla se enlistan tus oportunidades para estudiar en el extranjero basadas en tu Perfil de Alumno.

**Instrucciones:**

1. Selecciona 15 oportunidades para que puedas tener acceso a toda la información correspondiente.
2. Una vez seleccionadas, dirígete a la sección de "Top 15" para poder consultártelas.

**Ordenar por:** Ningún ordenamiento

**Total de oportunidades:** 21

### Página 1 de 3

<table>
<thead>
<tr>
<th>Clave</th>
<th>Nombre/Curso</th>
<th>Lugar</th>
<th>Universidad</th>
<th>Período</th>
<th>Límite de Inscripción</th>
<th>Top 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHI0921</td>
<td>Montreal, Canadá</td>
<td>Université du Québec à Montréal The School of Management Sciences</td>
<td>Profesional, Agosto-Diciembre</td>
<td>25-AUG-2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHI1143</td>
<td>Mónaco, Francia</td>
<td>University of Southern Europe</td>
<td>Profesional, Agosto-Diciembre</td>
<td>25-AUG-2000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
http://www.itesm.mx/vi/ddai/
http://www.itesm.mx/study@monterreytech/
http://www.itesm.mx/vi/dpys/sistemas/sistemas.htm
Directory

Dr. Enrique A. Zepeda Bustos  
Vicepresident  
aezepeda@itesm.mx

Lic. Marisa Avilés Arreola  
International Academic Development  
maviles@itesm.mx

Lic. Patricia Montaño Salinas  
Systems and Planning  
pmontano@itesm.mx

Lic. Luis Alejandro Kauachi Legorreta  
International Projects  
lkauachi@itesm.mx

Lic. Diana Arreola de la Garza  
International Organizations and Associations  
darreola@itesm.mx
Monterrey Tech’s
International Strategy

Dr. Teofilo Ramos
Dean of Institutional Effectiveness

Dr. Enrique Zepeda
Vicepresident for International Affairs

April 6-11, 2003
Tomar, Portugal