

# Achieving academic excellence at UTEP and economic opportunity for El Paso



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## Introduction

As the second oldest academic component in the University of Texas System and the largest Hispanic-majority university in the United States, the University of Texas-El Paso (UTEP), as advertised in its own degree catalog, stands in a unique position to capitalize on "its binational location to create and maintain multicultural, inter-American educational and research collaborations among students, faculty, institutions, and industries, especially in northern Mexico."<sup>1</sup> Despite UTEP's longstanding history, there is still academic and research infrastructure that is needed in order to capitalize on this vision. In their report, *Research Capability Expansion for the University of Texas System*, the Washington Advisory Group (WAG) states that the Borderland universities in the University of Texas System must recruit and retain prestigious faculty in order to become more competitive Tier I research institutions. The report recommends that UTEP triple its current \$33 million research budget and add 300 new researchers in order to reach a more competitive Tier I status.<sup>2</sup>

In addition, Texas Borderland universities combined have nearly half the amount of Ph.D. programs than the University of Texas-Austin alone. This lack of academic opportunity negatively impacts Border regions' ability to retain their best and brightest students. The table *Doctoral and Professional Programs, 2005* illustrates the stark contrast between the number of Ph.D. programs offered at different universities in Texas.

*Doctoral and Professional Programs, 2005*

<b>PROGRAM</b>	<b>UT- BROWNS -VILLE</b>	<b>UT-PAN AMERICAN</b>	<b>UT-SAN ANTONIO</b>	<b>UT-EL PASO</b>	<b>TEXAS A&amp;M- INTERNA- TIONAL</b>	<b>UT- AUSTIN</b>
<b>BUSINESS</b>	0	1	4	1	1	5
<b>EDUCATION</b>	1	1	4	1	2	11
<b>ENGINEERING</b>	0	0	3	5	0	18
<b>LIBERAL ARTS</b>	0	0	1	3	1	22
<b>HEALTH SCIENCES</b>	0	0	0	2	0	2
<b>SCIENCE</b>	0	0	4	2	0	15
<b>ARCHITECTURE</b>	0	0	0	0	0	3
<b>MEDICAL</b>	0	0	0	0	0	0
<b>LAW</b>	0	0	0	0	0	1
<b>TOTAL</b>	<b>1</b>	<b>2</b>	<b>16</b>	<b>14</b>	<b>4</b>	<b>77</b>

SOURCE: Texas Higher Education Coordinating Board.

UTEP's six academic colleges—business administration, education, engineering, health sciences, liberal arts, and science—offer 86 baccalaureate degrees, 80 master's degrees and

<sup>1</sup> University of Texas-El Paso, *Graduate Catalog, 2004-06*. Accessed: December 6, 2005. Available: [http://www.utep.edu/catalogs/2004/2004\\_2006\\_GRAD.pdf#admission](http://www.utep.edu/catalogs/2004/2004_2006_GRAD.pdf#admission)

<sup>2</sup> Washington Advisory Group, *Research Capability Expansion for the University of Texas System*. Accessed: January 3, 2006. Available: <http://www.utsystem.edu/ipa/wag/Report/WAGReportUTEP5-7-04.pdf>

fourteen doctoral degrees in biological sciences, civil engineering, computer engineering, computer science, English rhetoric and composition, environmental science and engineering, geological science, history, health sciences, international business, materials science and engineering, psychology, educational leadership and administration, and nursing.<sup>3</sup>

As UTEP establishes its goals to achieve Tier I status and develops additional doctoral programs, there should be a concerted effort to capitalize on its unique educational opportunities in order to develop economic advantages for the El Paso region. Just as the economic development strategy of El Paso once centered around the Five C's -- climate, copper, cotton, cavalry, and clothing-- El Paso's future now depends on how it leverages and invests in "the Five M's" -- medicine, military, movement, manufacturing, and Mexico. This cannot be accomplished without UTEP leading the way in the following areas -- health, international business and law, engineering and technology, architecture and urban planning, and education.

## Health

El Paso has the opportunity to lead the nation as the first medical center to focus on education, research, and care based on medical challenges unique to Hispanics. El Paso is home to the largest public hospital on the U.S.-Mexico border, five private hospitals, a world-class Army medical facility, and an expanding academic medical center. When combined, these facilities represent the largest health-related foundation along the Border.

UTEP's current allied health programs in nursing, physical and occupational therapy, and speech-language pathology are critical to this development.<sup>4</sup> In addition, the collaborative efforts among the Biological Sciences, Chemistry and Mathematics Departments were praised in the WAG report for their research efforts in immunology, bacteriology, and drug targets. The University was also credited for its successful efforts in obtaining federal funding from the National Institutes of Health and National Science Foundation.

The WAG report noted that in order to achieve Tier I status, the College of Sciences needs to develop Ph.D. programs in Chemistry, Physics, and Mathematics to have the necessary research foundation and expand its laboratory space.<sup>5</sup> UTEP is already beginning the process of developing a Ph.D. program in Chemistry. The report also recommended health related sciences focusing on infectious diseases as a "high opportunity field" for UTEP. In order to create an expertise in Hispanic health care, new master and doctorate programs in the following areas should be considered:

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<sup>3</sup> University of Texas-El Paso, *Graduate Catalog, 2004-06*. Accessed: December 6, 2005. Available: [http://www.utep.edu/catalogs/2004/2004\\_2006\\_GRAD.pdf#admission](http://www.utep.edu/catalogs/2004/2004_2006_GRAD.pdf#admission)

<sup>4</sup> UTEP currently offers doctorates in health sciences and nursing and master's in kinesiology, health promotion, family nurse practitioner, nursing administration, occupational therapy, physical therapy, speech language pathology, women's health care/nurse practitioner, and nursing clinician/nursing clinician educator.

<sup>5</sup> Washington Advisory Group, *Research Capability Expansion for the University of Texas System*. Accessed: January 3, 2006. Available: <http://www.utsystem.edu/ipa/wag/Report/WAGReportUTEP5-7-04.pdf>

- Nutrition and Dietetics Generally, the Border has higher rates of obesity compared to the rest of the state. Results from a survey coordinated by the Paso del Norte Health Foundation in El Paso County found 27 percent of males and 23 percent of females to be obese. People with obesity are significantly more likely to suffer from conditions such as Type 2 diabetes, heart disease, high blood pressure, and osteoarthritis.<sup>6</sup> The effects of child obesity are also very serious and in the Border region, it is estimated that 38 percent of school children are overweight or obese. Developing an expertise in this area, not only provides an academic advantage for UTEP, but it will be of critical importance to the future health of the El Paso community.
- Environmental and Occupational Health (including the study of infectious disease, environmental, and molecular epidemiology): Multiple factors, including inadequate water and wastewater infrastructure, migration from Mexico, the movement of disease vectors across the Border, and inadequate disease surveillance contribute to higher rates of some infectious and chronic diseases in Border communities like El Paso. Since infectious diseases are not bound by borders, the El Paso community and UTEP must engage in active efforts to provide adequate education to health care professionals in this area through a master's and doctorate program.
- Health Administration (with a focus on International Development): In order to work on the Border, a health administrator will need to understand the health care system in an international context. In addition to understanding Medicare and Medicaid at the state and federal level, they will also need to understand the impact of providing health care for an international community. UTEP is the ideal higher education institution to provide this education and training.

## **International Business and Law**

In addition to facilitating the movement of people and goods, ports have the potential to export key services such as engineering, architecture, information technology, business management, accounting, media, and international law. For businesses, El Paso, in particular, is an ideal home for providers of services seeking to reach international markets. By harnessing higher education, expertise, and investment, businesses situated at the border can reach southward to endless potential markets.

Currently, UTEP offer's master's programs in accounting, business administration, business and public administration, economics, and information technology. The development of the master's in economics and information technology into doctorate programs with a focus on international systems would provide an opportunity for UTEP to leverage its competitive advantage. UTEP has already accomplished this goal with their doctorate program in international business, which is a comprehensive program focused on quantitative, theoretical,

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<sup>6</sup> American Obesity Association. Accessed at [http://www.obesity.org/subs/factsfacts/Health\\_Effects.shtml](http://www.obesity.org/subs/factsfacts/Health_Effects.shtml)

and methodological research methods. UTEP could also offer more focused master's and doctorate programs in the following areas:

- International Management: This program would be designed to prepare students to lead projects, programs, teams, and organizations across international boundaries.
- Global Leadership: Similar to the program offered at the University of San Diego, this master's program would be designed for high performing business, government, and military professional in the El Paso region to further expand their expertise as leaders, diplomats, and managers in an international context.
- Taxation: With a focus on international taxation systems, this program would be developed for academics and professionals with experience in accounting to better meet the changing needs of a global business client.

In the area of law, with master's programs in Political Science and Public Administration already in place, UTEP would benefit tremendously from offering Ph.D. programs in these areas as well. The creation of the Law School Preparation Institute in 1998 also places UTEP in a position to establish the first law school in Texas on the U.S.-Mexico border. Participants in this program are juniors and seniors who develop critical thinking and analytical skills to better prepare them for the rigorous workload and thinking skills necessary for law study and practice.<sup>7</sup> Unfortunately, upon graduation these students move to Dallas, Houston, San Antonio, Austin, and even out of state to receive their legal training rather than continuing their studies in El Paso. A law school at UTEP would allow El Paso the opportunity to keep its best and brightest as well as train them for future legal and business endeavors in the Americas corridor region.

## Engineering and Technology

As the prime maquiladora location in Mexico, Ciudad Juarez is a valuable resource for American manufacturing industries. While hundreds of companies base their operations in Ciudad Juarez, few have taken advantage of El Paso as a potential hub for cargo transportation, research and development, and manufacturing support. High technology manufacturing often requires innovative, research-based solutions to new challenges. With the vast military facilities of Ft. Bliss and seasoned researchers at nearby academic centers and laboratories, El Paso is also a natural home to defense industry research and development.

UTEP's College of Engineering is critical toward this academic and economic development. The College has already received numerous accolades including a consistent ranking as one of the top schools in the nation in awarding bachelor degrees to Hispanics and its 1996 recognition as a "Model Institution for Excellence" by the National Science Foundation.<sup>8</sup>

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<sup>7</sup> The University of Texas-El Paso. Accessed at <http://www.academics.utep.edu/Default.aspx?tabid=19069>

<sup>8</sup> The University of Texas-El Paso. Accessed at: <http://academics.utep.edu/Default.aspx?tabid=10979>

Currently, the College offers master's degrees in civil, electrical, environmental, industrial, manufacturing, mechanical engineering, computer science, metallurgical and materials engineering and information technology. The College also offers Ph.D. programs in civil engineering, computer engineering, computer science, environmental science and engineering, and materials science and engineering.

The WAG report noted that the College of Engineering "very wisely is focusing on efforts that address the needs of the region and that are aligned with the strategic research areas identified by the University, namely, biomedical and health sciences; business, policy, and social and economic development; communication and information technology; education; environment and energy; materials and advanced manufacturing; and transportation policy and infrastructure."<sup>9</sup> For example, the College's Institute for Manufacturing and Materials Management helps manufacturers convert defense-related technologies to civilian production. In 2003, UTEP had \$2.9 million in Defense Department contracts. The report went on to mention that the college should focus on research and faculty recruitment activities that focus on topics relevant to the El Paso-Juarez metroplex including transportation, manufacturing, and applications of computational techniques.

The College has already achieved some of the goals recommended in the WAG report, including the creation of Ph.D. programs in Civil and Computer Engineering. In addition, the College is currently pursuing doctoral programs in Interdisciplinary Health Sciences, Business and Policy Studies, and International Manufacturing. In all of these areas UTEP's College of Engineering has a great opportunity to leverage its knowledge and expertise about engineering in an international context and environment. The WAG report also recommended that UTEP pursue Ph.D. programs in electrical and mechanical engineering in order to have the necessary research foundation for the College of Engineering.

## **Architecture and Urban Planning**

Situated at the border of three states and two nations, the location of El Paso provides the opportunity to be just 24 hours from any destination north or south in a just-in-time world. The city sits at the center of I-10, a major cross-country artery that stretches from the Pacific to the Atlantic; U.S. 54, a direct link to Chicago that is the preferred route for truckers; the I-20 route to Dallas; and rail in four directions. 62 million people cross the El Paso border every year and the airport boasts the largest and most complex air cargo facility on the U.S.-Mexico border.

Since most of the U.S.-Mexico trade is moved across land via commercial vehicle, Texas' crossings have become overburdened choke points for international trade. There has been a four-fold increase in cross-border trade over the past fifteen years, and truck traffic is expected to increase 85 percent over the next three decades. To make El Paso more attractive to industry, the city needs to move people and product across the border, faster, smarter, and safer. UTEP's College of Engineering already considers transportation policy and infrastructure as an

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<sup>9</sup> Washington Advisory Group, *Research Capability Expansion for the University of Texas System*. Accessed: January 3, 2006. Available: <http://www.utsystem.edu/ipa/wag/Report/WAGReportUTEP5-7-04.pdf>

important research area and their newly approved Ph.D. program in civil engineering will add to this expertise.

Because of UTEP's unique geographic and demographic position, however, a College of Architecture and Urban Planning would provide another opportunity to demonstrate its unique expertise. An urban planning program would examine issues related to public transit, urban revitalization projects, sustainable development, land use, housing, zoning, environmental contamination, and the preservation of community, industrial, urban, and regional environments all within the context and perspective of international planning issues. Graduates would work at local, regional, state, national and international levels in both the public and private sectors, including regional planning agencies, development authorities, engineering consulting firms and legal organizations.

El Paso's geographical position not only provides a unique expertise in urban planning, but its majority-Latino population also provides a historical perspective for both urban planning and architecture. The growing Latino population will impact the lifestyle, culture, and spatial makeup of cities all across the nation. This impact will include architectural design preferences of both residences and commercial property and the design and use of public spaces and venues. Currently, there is not one urban planning or architecture higher education program along the U.S.-Mexico border.

## Education

During the 2001-02 school year, Hispanics comprising 41.7 percent of the student population surpassed Anglos as the largest ethnic group enrolled in Texas public schools.<sup>10</sup> In 2003-04, the first grade enrollments for the three largest school districts in the state -- Houston, Dallas, and Ft. Worth Independent School Districts -- were each over 50 percent Hispanic. Approximately 40 percent of each of these classes were classified as Limited English Proficient. By the year 2040, the state demographer predicts that Hispanics will comprise 66.3 percent of the public school enrollment in Texas.<sup>11</sup> The data for these school districts represents a growing statewide trend that will pose significant challenges to educators of children who must learn in a language other than that which is spoken primarily in the home.

In a study which measured the academic success for Hispanic and economically disadvantaged students across Texas, UTEP's Institute for Policy and Economic Development found that El Paso students outperform students in other major cities and border communities across the state.<sup>12</sup> The study suggested "the need for a broad based qualitative research

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<sup>10</sup> Equity Center, *Impact of Eliminating Recapture and Reducing State Aid by Lowering the Basic Allotment*, February 2004.

<sup>11</sup> Texas State Data Center, *Population Change in Texas: Implications for Human and Socioeconomic Resources in the 21st Century*. Online. Available: [http://www.txsdcd.tamu.edu/download/pdf/presentations/2004\\_02\\_23\\_Compptroller\\_Austin.pdf](http://www.txsdcd.tamu.edu/download/pdf/presentations/2004_02_23_Compptroller_Austin.pdf). Accessed: March 22, 2004.

<sup>12</sup> Institute for Policy and Economic Development, University of Texas-El Paso, *The High School Performance Gap: Measuring Proportional Success for Hispanic and Economically Disadvantaged Students Across Texas*.

program that helps explain El Paso's successful mix of pedagogy and policy, a program needed well before Hispanics make up the majority of the state's population and are disproportionately left behind."<sup>13</sup>

Clearly, the education of Hispanics is an area of expertise that UTEP should capitalize upon through its College of Education. The WAG report also recommended this as an "exploitable" opportunity for comparative research and encouraged UTEP to continue its current interdisciplinary collaborations and research grants. Currently the College offers Master's in education, educational administration, special education, educational diagnostics, and community/agency and school counseling. The College also offers a doctorate degree in educational leadership and administration and has a proposal for a second doctorate program in teaching and learning focusing on literacy, including bilingual literacy, in science and mathematics.

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Online. Available: <http://iped.utep.edu/IPED%20Reports/TR2004-10/Final-HighSchoolPerformanceGap.pdf>. Accessed: January 5, 2006.

<sup>13</sup> Ibid.