January 31, 2014

Working Group Name	Business
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Executive Summary

After carefully reviewing the guiding principles of the University of Texas-Rio Grande Valley (UT-RGV) and examining innovative academic programs and structures at other institutions, the Academic Working Group for Business (AWGB) makes the following recommendations regarding academic programs in business and the corresponding academic structure.

Academic Programs

Both the School of Business at the University of Texas at Brownsville (UTB) and the College of Business Administration at the University of Texas-Pan American (UTPA) offer academic programs that produce future business leaders, professionals, and academic scholars with international, national, regional, and local impacts. These strong undergraduate, Master's, and Ph.D. programs will be the gems of the new university. Hence, the AWGB recommends existing academic programs at UTB and UTPA continue to be offered by UT-RGV with the exception of the Master of Science in Accounting.

For new programs, the AWGB considered innovative programs at other institutions, the unique characteristics and mission of UT-RGV, and national and local demands for the programs. The focus is on offering new Bachelor's programs that address all these requirements and Master of Science (MS) programs that produce graduates with more in-depth knowledge on their field of specialization.

For 2015, we strongly recommend five new programs including BBA in Intercultural Business, BS in Analytics, MS in International Development Studies, MS in Banking and Finance, and MS in Healthcare Informatics, with the first three being our top priorities. The BBA in Intercultural Business would offer coursework in both business and Spanish, reflecting the bicultural/bilingual/ biliterate mission the new university. The BS in Analytics is innovative, meets the emerging market demand for data analysts due to big data, and reflects the STEM focus of the new university. The MS in International Development Studies allows UT-RGV to take advantage of its geographic and cultural connections to Latin America. The MS in Banking and Finance and MS in Healthcare Informatics allow us to produce graduates that serve two major industries – finance and healthcare – in the valley and beyond. In addition, programs such as BBA in Intercultural Business, BS in Analytics, and MS in Healthcare Informatics are all transdisciplinary.

For 2017, we recommend five new programs including BBA in Sustainable Tourism, BBA in Intercultural Marketing, MS in Banking and Finance, MS in Health Information Technology, and MS in Sustainability

Management, with the first three being our top priorities. These new programs have good fit with demands for talents in the national and local tourism, marketing, finance, and healthcare industries. In addition, the MS in Sustainability Management would position us as a national leader in the delivery of a graduate program that emphasizes the 3 R's (reduce, reuse, and recycle).

The new programs we recommend for 2020 are BBA in Cross Border Trade, MS in Digital Forensics and Cybersecurity, MS in Health Information Technology, MS in International Taxation, and BBA in Financial Planning, with the first four being our top priorities. These programs allow us to further build on the strengths of our existing programs and new programs introduced in 2015 and 2017 to offer more specialized degrees.

For 2025, we recommend a variety of programs at the Bachelor's, Master's, and Ph.D. levels. The top five programs are Ph.D. in Economics, BBA in Commercial Banking, MS in Forensic and Investigative Accounting, BBA in Healthcare Administration, and MS in Quantitative Economics and Finance, with the first three being our top priorities. These programs allow us to continue to offer more specialized degrees and represent the future direction we have identified for the business disciplines.

We have inserted a Special Note listing several other programs we considered and recommend for future consideration and possible implementation. Some build on current and proposed programs to be implemented between 2015 and 2025, while others look ahead to new fields for development. Please see the appendices for more detailed justifications for the top priority programs scheduled for delivery in Fall 2015.

Academic Structure

In addition to innovative programs housed within our current academic structure, we believe that to be responsive to the swiftly changing climate among global business schools and their worldwide market for students, UT-RGV should support the creation of a new college designed to provide logical, thematic and flexible programs for implementation of contemporary missions. The driving force for the new college is to create an independent academic structure focused on developing emerging programs that support changing career demands for our students. Many current emerging programs are transdisciplinary and require unique approaches to broaden curricula that provides educational advantages for our students. This new college must have an administration that is entrepreneurial, strategic and successful at change management, supported by resources that do not compete with traditional programs and resources developed from within the college's own entrepreneurial efforts. It must be ready to address the call of local and regional industry for programs responsive to their needs. It must have the capacity to develop transnational programs that serve to expand horizons for our local students and recruit students from our international partners.

Our proposed structure for the initial iteration of such a new college, the College of Sustainable Commerce, Innovation and Entrepreneurship [CSCIE], is organized with three academic units: School of Technology & Innovation (STI); Center for Sustainability Studies (CSS) and Center for Global Trade (CGT). STI will house Entrepreneurship and the current UTB Center for Commercialization, developing proposed programs for Digital Forensic & Cybersecurity, Forensic & Investigative Accounting, and Healthcare Informatics degrees delivered across disciplines. CSS will initially offer academic programs, conduct research and provide consultative and applied services in International Development Studies and later in Sustainable Tourism, with the proposed hotel and convention center serving as a living laboratory for the many disciplines required to develop, construct, promote and administer the facility. CGT will support a mission to further develop local, national and global economies with initial programs in International Commerce and Materials & Logistics and implementation of new programs in Cross Border Trade and International Taxation. Through the CGT, UT-RGV would continue the efforts of UTB in promoting and building the Binational Economic Development Zone. Cross-disciplinary research originating from faculty in the CSCIE will have impact locally, regionally and globally.

With our proposed new college we address programmatic, logistic and strategic issues arising from UT-RGV's rare circumstance of having two fully-developed campuses separated by physical distance. Unique, or even similar, colleges established among multiple campuses is not unprecedented. For example, The University of Washington, with one central administration governing its three campuses located in Seattle, Tacoma and Bothell is organized to take into account the geographic elements that separate them (please see http://www.washington.edu/admin/rules/policies/PO/EOIX.html). Each has a separate School of Business. Our proposed model is structured to facilitate student program selection and administrative services without duplication of programs. The new college would have its own and separate mission defining the purpose for its transdisciplinary offerings. Separate business unit accreditation through The Association to Advance Collegiate Schools of Business [AACSB] will bring about distinctive elements to promote the college in the global marketplace. Branding, external market perception, financial relationships with the institution and business academic unit autonomy will provide UT-RGV with unique opportunities for differentiating itself from thousands of other business schools recruiting globally for students.

Both colleges will focus on tasks that will create value for our regional stakeholders who have unique needs and aspirations. We foresee courses of study designed to prepare students for business careers that transcend borders, and concentrate on our integrated, two-nation region, as well as Latin America's sphere of influence. We propose developing curricula and a culture providing relevant, flexible educational opportunities that meet the needs of and engage our degree-seeking students, non-degree seeking students, and bi-national business community.

Working Group Meetings

Date	Location/Format
September 27, 2013	UTPA
October 11, 2013	TSTC
October 25, 2013	UTB
November 8, 2013	UTPA
January 17, 2014	TSTC
January 24, 2014	TSTC
Various dates	Online via electronic mail and Sharepoint

Current Academic Programs

UTB	UTPA
BBA in Accounting	BBA in Accounting
BBA in Management Information Systems (MIS)	BBA in Computer Information Systems (CIS)
BBA in Finance	BBA in Finance
BBA in Management	BBA in Management
BBA in Marketing	BBA in Marketing
BBA in International Business	BBA in Economics
BBA in Entrepreneurship	BA in Economics
BS in Materials Management and Logistics	MBA

MBA	MBA Online
MBA Online	Master of Accountancy
Integrated BBA/MBA in Accounting	Master of Science in Accounting
MBA/MPH (Business & Public Health)	Ph.D. in Business Administration
A Spanish MBA program is currently under	A Master of Science in Health Science (Business
development for implementation in Fall 2014	Administration tract) will begin in Fall 2014

Current Academic Programs to be Offered Fall 2015

Bachelor's Degrees	Master's Degrees	Doctoral Degrees
BA in Economics	MBA	Ph.D. in Business Administration
BBA in Accounting	MBA Online	
BBA in Computer Information Systems	Master of Accountancy	
BBA in Economics	MBA/MPH (CSCIE & Public Health)	
BBA in Management Information Systems	Maestría en Administración de Empresas [MBA in Spanish]	
BBA in Entrepreneurship (CSCIE)	Master of Science in Health Science (Business Administration tract)	
BBA in Finance	Master of Science in Accounting [Taxation]	
BBA in International Commerce (CSCIE)		
BBA in Management		
BBA in Marketing		
Integrated BBA/MBA in Accounting		
BS in Materials and Logistics (CSCIE)		
BBA in International Business		

$New\ Academic\ Programs\ for\ Fall\ 2015\ \ (Please\ indicate\ with\ an\ asterisk\ (*)\ your\ top\ 3\ priorities.)$

Bachelor's Degrees	Master's Degrees	Doctoral Degrees
BBA in Intercultural Business*	MS in Banking and Finance	
BS in Analytics*	MS in International	
	Development Studies (CSCIE)*	
	MS in Healthcare Informatics	
	(CSCIE)	

New Academic Programs for Fall 2017 (Please indicate with an asterisk (*) your top 3 priorities.)

Bachelor's Degrees	Master's Degrees	Doctoral Degrees
BBA in Sustainable Tourism (CSCIE)*	MS in Banking and Finance*	
BBA in Intercultural Marketing	MS in Health Information	
(CSCIE)*	Technology	
	MS in Sustainability Management	

New Academic Programs for Fall 2020 (Please indicate with an asterisk (*) your top 3 priorities.)

Bachelor's Degrees	Master's Degrees	Doctoral Degrees
BBA in Cross Border Trade	MS in Digital Forensics and	
(CSCIE)*	Cybersecurity (CSCIE)*	
BBA in Financial Planning	MS in Health Information	
	Technology*	
	MS in International Taxation	
	(CSCIE)*	

New Academic Programs for Fall 2025 (Please indicate with an asterisk (*) your top 3 priorities.)

Bachelor's Degrees	Master's Degrees	Doctoral Degrees
BBA in Commercial Banking*	MS in Forensic and Investigative Accounting (CSCIE)*	Ph.D. in Economics*
BBA in Healthcare Administration (CSCIE)	MS in Quantitative Economics and Finance	
	Multilingual and transnational MBA	

Special Note: the following additional programs were considered by the Business Academic Working Group and are recommended for further consideration in the future.

Bachelor's Degrees	Master's Degrees	Doctoral Degrees
BBA in Human Resources	MS in Hospitality and Tourism	Hybrid Ph.D. in Business
Management	(CSCIE)	Administration
BBA in International	MS in Human Resources/Human	Ph.D. in Healthcare and
Economics and Finance	Capital Management	Information Technology
BBA in Marketing and Social	MS in Infotainment Marketing	Standalone Ph.D. Programs
Media		

BS in Health Information Technology	MS in Marketing Research	
BS in Marketing Research	MS in Materials Management (CSCIE)	
Minor in Hispanic and Latin Marketing	MS in Project Management	
	MS in Taxation	
	MS in Services Marketing	
	MS in Analytics	
	MS in Entrepreneurship (CSCIE)	

Examples of innovative programs

Identify institutions and/or programs that are organized in an innovative way. In what ways are the programs innovative? How does this organization promote student success and/or scholarly activity?

Please refer to "Links to Innovative Programs and Organizational Structures" on the SharePoint site.

Possible consultations

Identify campuses that faculty and administrators who are engaged in further planning may wish to study or visit and/or leaders/scholars that planners may wish to consult.

Trans-disciplinary Opportunities

Describe the trans-disciplinary opportunities that extend beyond your group of disciplines.

BS and MS programs in Health Information Technology and Ph.D. Program in Healthcare and Information Technology allow us to collaborate with the Colleges of Health Sciences and Human Services, Biomedical Sciences and Health Professions, Nursing, and the Computer Science Department, and the UT-RGV Medical School in later years.

BBA Program in Intercultural Business includes coursework from both business and Spanish.

The MS program in International Development Studies would combine the disciplines of Economics, Sociology, and Government. It would prepare students for careers at international development organizations and NGOs, USAID, and the US State Department. The focus of the program, Latin American Economic Development, would be in keeping with UTRGV's Guiding Principle that the University serve as a "Gateway to the Americas". The Program would cultivate collaboration with universities in developing nations, primarily in Latin America. It would actively recruit international graduate students.

The current, new program, BBA in Management Information Systems is offered in collaboration with the Computer Science Department at UTB. Our proposed BS in Analytics and MS in Health Informatics likewise offer opportunities for collaboration with the Computer Science Department at UT-RGV.

MBA/MPH (COSCIE & UT Public Health) The current Master of Public Health (M.P.H.) and Master of Business Administration (M.B.A.) Dual Degree Program is a collaborative effort between The University of Texas School of Public Health, UT Health Science Center at Houston, and The University of Texas at Brownsville.

Bicultural/Biliterate/Bilingual

Describe how the proposed academic programs reflect the bicultural/bilingual/biliterate mission of the new university and culture of our region.

Several of the current programs emphasize our geographic and cultural connections to Latin America. Many of the proposed programs have an even greater emphasis, some being directly related. Our proposed Multilingual and Transnational MBA would result in a graduate capable of smoothly performing in the business world in at least two languages.

More specifically, we offer the following suggestions for implementing the bicultural/bilingual/biliterate mission:

- 1) Inclusion of a transitional period in which the approach will be intercultural rather bicultural because we currently have more intercultural faculty than bicultural one.
- 2) Inclusion of a transitional period in which new faculty with bi-cultural and bilingual expertise will be recruited.
- 3) Promotion of joint partnerships with universities in México and other Latin American countries to supplement the Spanish component of the bi-cultural and bilingual requirement.
- 4) Development of bilingual courses rather than separate English or Spanish courses in disciplines, like those in business, where the teaching resources are fundamentally in English while lectures and discussions can be in either English or Spanish.
- 5) Promotion of community engagement throughout our courses by adopting the following practices:
- . Involve community speakers in the courses
- . Invite scholars from foreign universities (preferably from Latin America) to visit our classes and make programmed presentations
- . Have field trips to companies and organizations involved in Hispanic business
- . Perform field research as part of the student applications and research projects included in the courses
- . Commit companies and organizations dealing with Hispanic business and consumers to participate in student projects by either allowing them to study their cases or becoming partners in student projects
- . Return student reports and information collected from to the studied companies or organizations

Community Engagement

Describe how the proposed academic programs reflect the community engagement mission of the new university.

The following proposed programs support the community or public engagement mission of UT-RGV:

Sustainable Tourism will involve community engagement through environmental courses requiring students to be involved with landowners, youth programs and businesses to improve use of natural resources.

Entrepreneurship, through working with and developing local businesses and opportunities, will directly engage students with local and regional stakeholders. By partnering "with small businesses, entrepreneurs and start-ups, students will receive real business exposure and experience and will be exposed to meetings, strategies and processes that will equip them with valuable tactical knowledge and business thinking skills." http://www.huffingtonpost.com/scott-macfarland/colleges-developing-entrepreneurs b 4596466.html

Materials management engages both the local business environment as well as the Mexican maquila industry. This program also engages with the federal, state and local government communities on both sides of the border.

The purpose of Cross Border Trade is to more clearly understand what is involved in trade between countries that share borders. By necessity this program will involve community engagement to understand the goals and needs of both border populations.

Our existing programs also place great emphasis on community engagement by faculty, staff, and students. For example, we offer the Border Economic Development and Entrepreneurship and the Finance, Insurance and Real Estate Symposiums once a year. These symposiums attract a wide range of our business and public communities. Our faculty has provided training and consulting services to local hospitals, entrepreneurs, and organizations. Our student organizations are also actively involved with the local community by providing services such as free computer technical services and donations of computers to local charities. Faculty and students together offer free tax return preparation during tax season through the VITA program.

We belive it also important to develop mentorship programs for students through the alumni association and advisory councils.

Academic Structure

Describe the academic structure you are recommending for your group of disciplines.

We recommend two independent colleges: College of Business Administration (COBA) and College of Sustainable Commerce, Innovation & Entrepreneurship (CSCIE). A mainstream College of Business Administration is invaluable at any university. Current business programs such as those delivered at our two present institutions are in high demand and shall continue to be so in the foreseeable future. Therefore, we would be ill-advised to tinker with this tried and tested model. It is expected that current programs will continue in the the UT-RGV mainstream business college. On the other hand, it is important that we develop innovative programs with emphases on sustainability and globalization. In order that the development of such programs not compete for resources with our flourishing current programs, it is advisable that the new programs be housed in a separate college. COBA will have five departments: Accounting and Business Law, Computer Information Systems and Quantitative Methods, Economics and Finance, Management, and Marketing. CSCIE will have three academic units: School of Technology & Innovation (STI); Center for Sustainability Studies (CSS) and Center for Global Trade (CGT). CSCIE is designed to contain a range of transdisciplinary programs administered through academic units that provide logical, thematic and flexible programs for implementation of contemporary missions. STI will house Entrepreneurship, Digital Forensic & Cybersecurity, Forensic & Investigative Accounting, and Healthcare Informatics degree programs delivered across disciplines required for their unique missions. CSS will initially offer academic programs, conduct research and provide consultative and applied services in Sustainable Tourism and International Development Studies. CGT will support a mission to further develop local, national and global economies with programs in International Commerce, Cross Border Trade, Materials & Logistics and International Taxation.

Separate academic business unit accreditation is allowed under The Association for Advancement of Collegiate Schools of Business [AACSB] eligibility requirements.

http://www.aacsb.edu/accreditation/business/standards/2013/eligibility.asp The Preamble to the 2013 new accreditation standards of AACSB gives us motivation for the creation of the new, separately accredited college,

The business environment is undergoing profound changes, spurred by powerful demographic shifts, global economic forces, and emerging technologies. At the same time, society is increasingly demanding that companies become more accountable for their actions, exhibit a greater sense of social responsibility, and embrace more sustainable practices. These trends send a strong signal that what business needs today is much different from what it needed yesterday or will need tomorrow.

Not surprisingly, the same factors impacting business also are changing higher education. In today's increasingly dynamic environment, business schools must respond to the business world's changing needs by providing relevant knowledge and skills to the communities they serve. They must innovate and invest in intellectual capital; they must develop new programs, curricula, and courses. Moreover, declining public support for higher education has placed business schools under additional economic pressure, which has shifted the mix of teaching and learning models they employ and affected the future of faculty and professional staff.

http://www.aacsb.edu/accreditation/business/standards/2013/preamble.asp

Responding to the global call for change while also responding to local and regional demand for an effective and engaging mainstream offering of business higher education can best be served with two academic business units whose activities can be focused on their respective missions. Likewise, external fundraising across the geography of the Rio Grande Valley will be enhanced for UT-RGV by having top administrators of the separate colleges available to concentrate on their clusters of potential funding sources. While the RGV is striving to become an identifiable economic unit, for some time to come, disparate communities with their own political and business leaders will require the college top administrator to develop and maintain personal relationships. It takes a rare individual that by personal presence can command the respect and engagement of donors across such a diverse territory.

Appendix A. Justification for Bachelor of Science Program in Analytics, University of Texas-Rio Grande Valley

Background

Following the introduction of the personal computer, businesses quickly adopted the computer and business operations were radically transformed. What went unnoticed at that time was the fact that the information systems professional of the day saved all of the transactional data that passed through the machine. As time moved forward, in an iterative fashion, more operations were moved to computer and more information was accumulated in the information system.

As time moved forward, businesses moved data from their transactional systems into data warehouses where online analytical processing could be performed to enhance decision making. However, these were small dataset; about fifteen years ago, only Wal-Mart held one terabyte of data in its transactional systems. At that time, Business Intelligence tools, the forerunners of today's Business Analytics toolset, basically consisted of Data Warehouses, Online Analytical, and Data Mining.

Now, organizations have become very interested in various forms of information including text, video and audio. Useful data resides in corporate transactional systems as well as the internet, including social network sites, and email systems. Because transactional data is moved to a warehouse to perform analytics, organizations were patient with analytics because it could take days to months before an organization would receive results on analysis to support business decisions. Today however, even with big data (the current business environment where organizational data is so massive in terms of volume, velocity and variety), businesses require access to analytic reports within the shortest possible time. Several technologies are being proposed to move processing to where solutions and analytic tools reside on hand-held devices. All these iterative moves from performing analysis in transactional systems through moving data to warehouse and now moving processing tools to hand held tools require high technical skills. The need for individuals with extensive knowledge in statistics, machine learning techniques and at the same time have business knowledge to translate business problems into analytical solutions has become very critical.

The two programs that we are proposing are STEM-certified programs that focus on the analysis of information now commonly called Big Data. While the origins of the term Big Data is illusive, businesses are now hold terabits of data exclusively for analytics. All too frequently, these same businesses know the data is incredibly valuable, but have no idea what is in it or how to extract meaningful information of value. Further, the environment is far more complex than just consisting of a lot of data. The data that analysts face originates in and reflects some economic environment, influenced by marketing, is constrained by operational and logistics limits, and push the information systems infrastructure to its limits. As a result, the analytics of this data typically occurs in the IS department but as members of cross disciplinary teams. Given this background, we propose two programs of study in business analytics.

Prior to the modern business analysis environment, analytics was the domain of business quantitative studies driven by three highly correlated study disciplines. Those disciplines are Management Science, Operations Research, and more recently Decision Sciences. All three of these disciplines focus on applied mathematics, particularly the application of statistics and linear algebra within the context of business operations. The problems faced by these disciplines were generally well contained and expressible in less than 500 variables and consisted of datasets one-million or fewer

observations. The modern business analyst carries forward all of the skills required of these traditional disciplines but adds new skills from the IS arena, particularly data warehousing, databases, SQL, and other skills necessary to gathering, organize, manage, and extract data to support specific business goals.

Market Demand for Graduates

The need for graduates skilled in analytics is not a topical topic for the academic literature. However, the practitioner literature is full of references to shortages of graduates with skills in analytics. Here is a short review of some of that material.

The data held in organizations is now tremendous. Russom (2011) reporting results of a survey by The Data Warehouse Institute (TDWI) report 37-percent of respondents then held between 10 and 100-terabytes of data just for analytics.

In that same survey, 20-percent of respondents expected to hold more than 500 terabytes by 2013. Additionally, Russom (2011) reported inadequate staffing or analytic skills as the biggest barrier by 46-percent of the respondents. The value of all this data is not questioned. Manyika et al. (2011) reported that "use of big data is becoming a key way for leading companies to outperform their peers."

The key to big data, and our opportunity, is in the people or the lack of people with adequate skill. Harvard Business Review published an article October 2012 titled "data Scientist: The Sexiest Job of the 21st Century," describes

Note that two technical entities have come together. First, there's big data for massive amounts of detailed information. Second, there's advanced analytics, which is actually a collection of different tool types, including those based on predictive analytics, data mining, statistics, artificial intelligence, natural language processing, and so on. Put them together and you get big data analytics, the hottest new practice in BI today.

TDWI Research

The vast majority (70%) considers big data an opportunity. Through exploratory, detailed analyses of big data, a user organization can discover new facts about their customers, markets, partners, costs, and operations—then use that information for business advantage.

TDWI Research

how demand for analyst has outstripped demand. Just how big the shortage of analysts is seems to be a moving target.

Manyika et al. (2011) estimated a shortage of upwards of "1.5 million managers with big data expertise by 2018." The same report went on to say that by 2018 deep analytic talent, people with expertise in statistics and machine learning,

After organizations successfully implement POCs (proofs of concept) the biggest challenge becomes finding the skills to operationalize big data, including: technical, analytical and governance skills.

IBM Global Business Services Analytics: The real-world use of big data

in the United States to be 140,000 to 190,000 positions (Manyika et al., pp. 10). The U.S. Bureau of Labor Statistics combines the business analyst with management analysts in their Occupational Outlook Handbook; however, the occupation is projected to grow by 22-percent between 2010 and 2020 which is faster the average (Bureau of Labor Statistics).

The general manager in Business Analytics in SAP, Steve Lucas also estimates an insatiable demand of tools such as business analytics. He also predicts that the technology driving the demand for business analytics in five years are mobile, cloud, collaboration, in-memory, agility and integration (SAP Voice, 2011).

The amount of data is doubling every year. Information from devices, machines and social data, (think Big Data) creates an entirely new set of challenges and reinforces the fact that data will continue to grow exponentially for the foreseeable future. Naturally, the demand for tools like business analytics that helps organizations access, analyze, govern and share information is seemingly insatiable.

SAPVoice:

The Insatiable Demand for Business Analytics

The Accenture SAS Analytics Group

(2012) found 72-percent of companies planned to increase their spending in analytics. Of those same companies, 60-percent said they don't have the skills required to effectively use analytics. Further, 52-percent said hiring analytic talent was one of the top three priorities.

The proposed program would be pursued under one of the following STEM certified CIP's:

52.1301*	Management Science
52.1302	Business Statistics
52.1399	Management Science and Quantitative Methods, Other
27.0502	Mathematical Statistics and Probability
14.3701*	Operations Research
27.9999*	Mathematics and Statistics, Other.
27.03 *	Applied Mathematics

 CIP codes recognized as STEM by NSF. See https://www.lsamp.org/help/help stem cip 2010.cfm

References

Accenture SAS Analytic Group (2011). Hiring of Analytical Talent Will Rise in 2012. Retrieved from: http://newsroom.accenture.com/news/hiring-of-analytical-talent-will-rise-in-2012-accenture-and-sas-study-finds.htm

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Management Analysts, on the Internet at http://www.bls.gov/ooh/business-and-financial/management-analysts.htm (visited October 29, 2013).

Davenport, Thomas and Patil, D.J. (2012). Data scientist: The sexiest job of the 21st century. Harvard Business Review

IBM Global Business Services, (2012). Analytics: The real-world use of big data. Retrieved from: http://www-935.ibm.com/services/us/gbs/thoughtleadership/ibv-big-data-at-work.html

James Manyika, Michael Chui, Brad Brown, Jacques Bughin, Richard Dobbs, Charles Roxburgh, and Angela Hung Byers (2011). Big data: The next frontier for innovation, competition, and productivity. McKinsey Global Institute. Retrieved from:

http://www.mckinsey.com/insights/business technology/big data the next frontier for inno vation

Russom, P. (2011). Big data analytics. *TDWI Best Practices Report*. Fourth Quarter 2011. Reston, VA: The Data Warehouse Institute. Retrieved from: http://tdwi.org/research/2011/09/best-practices-report-q4-big-data-analytics.aspx

Lucas, S. (2011). The Insatiable Demand for Business Analytics. SAPVoice. Retrieved from: http://www.forbes.com/sites/sap/2011/11/08/the-insatiable-demand-for-business-analytics/

Appendix B. Justification for Master of Science in International Development Studies, University of Texas-Rio Grande Valley

Background

Almost half of the world's population lives on less than \$2.50 a day, and at least eight-tenths of humanity lives on less than \$10 a day. More than 5 billion of the world's 7 billion people live in the developing world. Their continued inability to lead full lives, achieve certain basic 'functionings' or capabilities (according to the economist and Nobel laureate Amartya Sen, the purpose of economic development is the expansion of human capabilities), has prompted business leaders like Bill Gates to devote their financial resources and managerial acumen to the cause of international economic development.

Americans ought to be concerned about global poverty because:

- a) it threatens US national security: "poverty, weak institutions, and corruption can make weak states vulnerable to terrorist networks and drug cartels within their borders", said former President George W. Bush;
- b) it threatens US public health: for example, swine or avian flu epidemics in the developing world could, given the pace of international travel, quickly spread to the US;
- c) it impedes the growth of US exports: international economic development would, by making the world's poor better able to purchase goods and services made in America, broaden the market for US exports after all, the late management guru C. K. Prahalad famously argued that even the world's poor have buying power worth \$8 billion per day;
- d) it leads to illegal immigration: illegal immigrants in the US are largely made up of Latin America's poor; international economic development would stem this tide;
 - e) it is intolerable on moral, humanitarian, grounds.

Degree Program

A Master's program in International Development Studies at UT-RGV would promote valuable understanding of global poverty, its ramifications for the US, and the means of its eradication. Further, the Program's Latin American focus shall be wholly in keeping with the University's Guiding Principle that it serve as a "Gateway to the Americas". Finally, the program shall be trans-disciplinary. Besides Economics, Sociology, Government, Education, perhaps even Public Health may contribute to it. For example, students would be offered three concentrations:

- a) Economic Development: Courses in this concentration would include Business/Managerial Economics, Environmental Economics, Benefit-Cost Analysis, International Finance and Economics, Development Economics, Econometrics, and certain special topics such as Microfinance and Women & Development.
- b) Global Health: Courses in this concentration would be in the field of global public health. These courses may be supplied by the Brownsville Regional Campus of the UT School of Public Health (https://sph.uth.edu/campuses/brownsville/). UTB currently has a joint MBA-MPH program with the Brownsville Regional Campus of the UT School of Public Health. This program might be suitably tweaked for our purposes.

c) International Education: Courses in this concentration would mostly be supplied by the University's College of Education. They would include The Economics of Education, International and Comparative Education, Program Evaluation, Education Policy, and Ethnographic Methods.

Our students would aspire to careers in international organizations, NGOs, or government. Many would be nationals of developing countries. We would actively recruit students from Latin America. Many such students would be Latin American government officials, sent abroad by their governments on study leave. We would also establish a vibrant visiting scholar program. Latin American academics at elite institutions would visit us often. They might even contribute to teaching our courses. Likewise, our faculty shall frequently visit institutions abroad. Perhaps UT-RGV shall invest in real estate in a Latin American capital to establish a University Center there. Our faculty would visit this Center for short periods to team teach courses. This is not beyond the realm of possibility.

Appendix C. Justification for Intercultural Business Degree University of Texas-Rio Grande Valley,

Background:

The international business degree is a widely recognized and widely offered degree that mainly focuses on business on a global scale and therefore is quite broad in scope. While its purpose to create awareness in the business community to understand international implications of business was appropriate for the last two decades, the acceleration of globalization makes the initial model somewhat dated. We recommend a new approach that takes into account the new, more dynamic landscape.

Intercultural Business:

This degree takes a more specialized and interdisciplinary approach. This degree will focus more on the different cultural differences and communications techniques on a regional basis. Currently there is no known college or university that offers this program. Although there are several intercultural studies programs and available Edinburgh Napier University in the UK does offer a Masters in Intercultural Business communications, none focus on the commercial implications of the various cultural regions and their differences. The degree will focus on developing awareness of the different regional cultural systems and develop strategies to successfully navigate these complex systems. This will allow for effective application of cross cultural management, marketing and negotiations.

Demand

Currently two thirds of employers are seeking employees with the ability to work with individuals or organizations from a different cultural background (Brooks 2013). The referenced IPSOS (2013) study also points out that very few educational institutions are providing adequate preparation for intercultural skills and in the increasingly globalized world these skills are necessary to avoid expensive misunderstandings. Marketing literature is rife with examples of cultural missteps even to this day. Current sociological and demographic trends, along the increasingly marketing centric focus of companies, argue for a greater cultural understanding of both customers and employees.

Major Courses Draft (24 hours):

Cross-cultural Management

Cross-cultural Marketing

Cross-cultural Negotiation

Cross-cultural Consumer Behavior

Cross cultural ethics and ecology

International Politics and Economics

Regional Values Studies 1 (Major Economies)

Regional Values Studies 2 (Emerging Economies)

References:

Brooks, Chad (2013), http://www.businessnewsdaily.com/4066-cultural-skills-set-job-applicants-apart.html

IPSOS (2013) http://www.ipsos-na.com/research/public-affairs/