



Guam Community College: Market Assessment and Needs Analysis

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Introduction

As Guam Community College (GCC) continues to expand its sphere of influence and provide high quality education and career training for its students, the college seeks additional ways in which it can support the needs of both local Guam based students and Micronesian students at large. As part of this process, the college has embarked on an analysis of its Distance Education needs by engaging Ellucian consultants. During the week of February 10th – 14th, Dr. Christine Martey-Ochola and Martin LaGrow from Ellucian visited the GCC campus in Mangilao and through the coordinated efforts of Wesley Gima (GCC) met with students, faculty and staff members as part of the assessment process. Through these meetings, it was determined that although the college has already offered a few distance education courses, a thorough market analysis and needs assessment was not utilized to drive the development of the online courses that are offered at the college.

This document outlines the findings from both onsite and off-site assessment, and specifically addresses the market needs, GCC's recruitment, marketing and retention management processes, student needs, and the current status of distance education in Micronesia. In addition, a summary of recommendations are included which if considered and implemented would enable the college to gauge what programs to offer, and which target markets to consider.

Postsecondary Online Programs

For at least the past decade, enrollment growth in higher education has been concentrated in the online market. The Sloan Consortium (<http://sloanconsortium.org>) has been tracking the growth of online delivery within higher education since 2002 via a comprehensive annual survey. The Consortium's most recent report notes that the 10% percent growth rate for online enrollments far exceeds the 2% percent growth rate for the overall higher education student population.¹ The difference between the growth rate in the online market and the overall higher education market makes it clear that any institution of higher education with enrollment growth as part of its strategic agenda cannot afford to ignore the online market.

Gender Differences in Educational Attainment

Educational attainment data published by the U.S. Census Bureau indicates that women continue to outpace men with respect to college degree attainment.² Among the employed population 25 and older, 37 percent of women had attained a bachelor's degree or more as of 2010, compared with 35 percent of men.³ Furthermore, among the population 25 to 29, 36 percent of women had a bachelor's degree or more, compared with 28 percent of men.⁴

The same trend holds true when analyzing degrees conferred in the United States. For 2008-09, the most recent year for which U.S. Department of Education data are available, women earned 62.1 percent of all Associate's degrees; 57.2 percent of all Bachelor's degrees; 60.4percent of all Master's degrees; and 52.3 percent of all Doctoral degrees awarded in the U.S.⁵ Numerous studies have documented that women are more likely than men to enroll in online courses and programs as well.^{6, 7}

¹ Allen, I. Elaine, and Jeff Seaman. *Going the Distance: Online Education in the United States, 2011*. The Sloan Consortium (Sloan-C), Babson Survey Research Group, Nov 2011. Web. 21 Jan 2012. <http://sloanconsortium.org/publications/survey/going_distance_2011>.

² U.S. Census Bureau, "More Working Women Than Men Have College Degrees, Census Bureau Reports." Published April 26, 2011. <http://www.census.gov/newsroom/releases/archives/education/cb11-72.html>. Retrieved 012112.

³ Ibid.

⁴ Ibid.

⁵ U.S. Department of Education, National Center for Education Statistics. (2011). *The Condition of Education 2011* (NCES 2011-033), Table A-26-2. Retrieved 020112 <http://nces.ed.gov/fastfacts/display.asp?id=72>

⁶ Primary Research Group, *The Survey of Distance Learning Programs in Higher Education, 2007-2008 Edition*.

⁷ Rooney, Jill. "Cracking the Glass Screen: Gender and Online Higher Education." *The Open Academic*. Onlinecolleges.net, 27 Dec 2011. Web. 21 Jan 2012. <<http://www.onlinecolleges.net/2011/12/27/cracking-glass-screen-gender-online-higher-education-2/>>.

Postsecondary institutions implement online learning programs for numerous reasons, including: to increase student access to courses and programs via the asynchronous and remote access online delivery provides; to reach students who have scheduling and/or transportation barriers to face-to-face learning; to expand the institution's enrollment reach; and to decrease the costs associated with brick and mortar delivery/increase efficiencies.

William H. Graves, Ph.D., a co-founding Board member of the National Center for Academic Transformation (www.theNCAT.org) and Senior Vice President for Academic Strategy with Ellucian, shared the following perspective on the value of technology-enabled learning for postsecondary institutions:

The National Center for Academic Transformation (www.theNCAT.org) is the best source for proving via multiple examples that IT-enabled learning can improve learning outcomes while simultaneously reducing per-enrollment costs. When applied to the top 20-30 highest enrollment courses (each course section counted as part of one course), the IT-enabled course redesign strategy can measurably improve learning outcomes and reduce per enrollment costs by 40%, on average. In a community college, the top 20-30 highest-enrollment courses account for approximately 50% of all enrollments, while overall direct instructional costs amount to about 50% of all annual operating costs. The math ($40\% \times 50\% \times 50\% = 10\%$) then reveals possible annual cost offsets (or savings) of approximately 10% of annual operating costs.

... these results have been proven several times over during the past 10-15 years. There are five or so models for redesigning these courses, and effectiveness is amplified when applied in common across a state system or a multi-campus district. These models are explained on the NCAT website, and plenty of case-study examples are available there.

When we think about virtual campus offerings, [therefore] we should think not only about entire degree programs, but also and always about this cluster of the highest-enrollment courses – because these intro and basic-skill courses are the same everywhere and are also the gatekeeper courses on which retention and graduation rates depend so strongly. These courses are also often over-enrolled and therefore unavailable to the student who needs a few such courses to satisfy the requirements of her degree program to graduate on time.⁸

What can GCC offer the Postsecondary Market

Guam Community College (GCC) is seeking guidance in selecting programs for online delivery. Some of the factors that GCC offers include;

- a) Good accreditation status in Micronesia- The college is an advisor to colleges that belong to the Pacific Post-Secondary Education Council, through which it is able to share best practices with peer institutions (pacificpec.org)
- b) Affordable tuition
- c) The existence of adult education programs offered at the college
- d) career-based programs that offer students sound employment opportunities
- e) Institutional infrastructure that is stronger than its community college peers in the Micronesian region
- f) Low faculty turnover, therefore investment in programs that are built for distance learning may be able to exhibit longevity for as long as the program remains relevant to market needs
- g) Strong industry partnership - local businesses are advisors to the college departments in determining program viability
- h) Program funding through grants – the college has a strong grants organization that has supported the spearheading of several student success initiatives.

⁸ Per William H. Graves, Ph.D., Senior Vice President for Academic Strategy, Ellucian Higher Education, e-mail correspondence, 072311.

Guam Community College – Current Status

Current Course Offerings

GCC is offering a few programs using hybrid, distance or web-enabled learning. Creating an Online Environment Using Moodle and Creating Online Communities are existing courses at Guam CC in the Information Technology department. The Education department has offered CD221 Child Growth and Development and ED220 Human Growth and Development fully online, however the students come to the college to enroll in the courses. In addition, ED270 Behavior Management has run in Moodle as a hybrid course. Computer science, and business and technology related courses use have run web enhanced courses.

Current Institutional Interest

The college has not outlined which programs they would like to run for full DE offerings, however the English department, Social Studies, Education, and Math have indicated interest in offering DE courses. Continuing Education has also discussed a health certification process that may lend itself well in a DE environment.

The selection of courses mentioned above was not driven by market research, nor based on data obtained from students seeking online courses in these fields. The college will need to run an analysis on the need for all selected courses prior to developing the courses for an online offering.

Factors to consider would be:

- a. Student need for online courses in these fields
- b. Lack of institutional capacity to offer more traditional face to face courses, therefore driving the need for online courses
- c. Need for these courses by non GCC students, who have not been able to enroll in these courses because the sections are full.

Recruitment and Marketing

Guam Community College has a modern website that has a clean background, one-click access to a prospective student landing page and access to information that allows a student to determine what type of student they want to be. The **Apply now** page redirects the student to the admissions page, which has links to pdf documents that the student can download and use for application to the college. The main institutional landing page has a poll portal which allows the college to easily manage polls from both institutional constituents and site visitors. The dropdown menu bar that contains Academics, About GCC, Admissions, and other tabs is not convenient to use because it requires the user to hover their mouse over the given header so as to highlight the dropdown menu options which disappear upon cursor movement. This user experience can lead to difficulty in accessing information that is needed to convert a prospective student to an enrolled student. The undesirable effect of *frustration* and consequent migration to another institution that offers similar online programs/courses would not support performance indicators on student conversion.

The overall college website has a lot of information and sometimes requires multiple clicks to find pertinent information for a specific program. In order to find the actual courses for the Criminal Justice (CJ) certificate for example, a prospective/returning student would have to make four clicks in the following order; (1) Academics → (2) Social Science and Criminal Justice Department → (3) Certificate in Criminal Justice → and (4) Required Courses for Certificate. The second click provides social science courses but not the CJ courses, which require 2 additional clicks. A student looking for the social sciences course would therefore need to scroll beyond CJ links in order to access this information, which may create confusion or frustration. Worse still, due to minimal student advising a student seeking social science courses, may select a criminal justice course and therefore extend the length of study due to unwarranted course selections due to insufficient guidance.

The website was updated in the past three years by a third party web developer who will be revising the website in the coming year and addressing search engine optimization. Currently the website is managed by the Assistant Director of Communications and Promotions, with periodic support from MIS or students. Additional web analytics is supported through the admissions office by the registrar.

Programs and Courses

Currently, the college does not have a marketing strategy that is consistent for all programs. Each department is responsible for both marketing and recruitment efforts. The college requires each department to generate recruiting and marketing materials, manage fulfillment of requests that come directly to the department, with a final expectation that prospective students will be redirected to the application portal.

The departments are also responsible for managing website content. Usually the Assistant Director of Communications & Promotions makes requests for marketing and program updates from the departments, so that they can showcase their successes, or provide changes on their specific programmatic landing pages or the main website. The director sometimes has work-study students support marketing efforts through graphic design and other auxiliary functions.

Students

The students at GCC have indicated an interest in online courses and would probably be the first to enroll in online courses. It is critical for the college to create programs that will not cannibalize the current student body and strategically select courses for online delivery that will be marketable to the greater Guam and Micronesian community.

Recommendations: Marketing and Recruitment

1. GCC may want to review web navigation for the number of clicks of what is deemed pertinent information for student admissions and support. Also, an assessment of website Google analytics experience may lead to more clarity on what information to retain and what to migrate out of the website and to allow for better user experiences and faster page loading times.
2. The college may also want to create a distance learning programs/courses" landing page" that is easily accessible. Currently the online courses are buried in the CE section of the "Majors/Programs" tab.
3. In order to support fully online students, the college website "Apply Now" function would need to be configured such that it takes the student to the actual application portal within Banner, rather than to pdf documents that describe what is needed to apply. This information is important and can be included as "Documents needed and Steps to take prior to applying for a GCC online program/course".
4. If online programs will be marketed directly at the departmental level, then institutional approved marketing and fulfillment resources would need to be provided to the departments to ensure consistency in outreach efforts.
5. Develop a review process for departmental marketing efforts to ensure that all departments are meeting Key Performance Indicators that govern successful recruitment, fulfillment and conversion of prospective students. Periodic meetings with the department representatives responsible for marketing efforts are recommended. These meetings if coordinated by the communications and marketing department will support synergistic marketing and recruitment efforts across the institution. This process would entail a review of marketing personnel and may require additional hire (dependent on scope of DE programs)

Employment

Employment projection data from the U.S. Department of Labor indicates that the services-providing sector of the Guam's economy will continue to dominate the employment picture in the U.S. for some time to come. Of the 20 industries gaining the most jobs, seven are in the health care and social assistance sector, and five are in the professional and business services sector⁹. The health care and social assistance sector is projected to gain the most jobs (5.6 million), followed by professional and business

⁹ Bureau of Labor Statistics, U.S. Department of Labor, The Editor's Desk, Employment projections for major industries, 2010–20 on the Internet at http://www.bls.gov/opub/ted/2012/ted_20120202.htm (visited February 11, 2013)

services (3.8 million), and construction (1.8 million)¹⁰. In addition to identifying the largest industries in the U.S. with respect to total employment numbers, the Bureau of Labor Statistics (BLS) has also identified the fastest-growing industries in terms of employment.

Note: Industry sectors which appear strongest are “Health care and social assistance” and “Professional and business services”. Office and Administrative Support is at the top of Guam’s major occupational areas, while Food Preparation, Construction and Management Occupations as well as Education closely follow in hiring status. See Table 1.

Table 1: 20 Major Occupations Based on Highest Levels of Jobs Available

	Annual Jobs	Jobs /1000
Office and Administrative Support Occupations	10,890	33,650
Food Preparation and Serving Related Occupations	6,430	19,010
Construction and Extraction Occupations*	5,370	30,800
Management Occupations*	5,300	74,590
Education, Training, and Library Occupations	4,290	*
Sales and Related Occupations	4,270	23,340
Transportation and Material Moving Occupations	3,470	31,830
Installation, Maintenance, and Repair Occupations	3,430	37,450
Building and Grounds Cleaning and Maintenance Occupations	3,110	19,440
Protective Service Occupations	2,710	43,050
Business and Financial Operations Occupations	2,400	61,990
General and Operations Managers	2,000	70,090
Production Occupations	1,720	35,940
Healthcare Practitioners and Technical Occupations	1,710	63,010
Cashiers	1,710	19,380
Personal Care and Service Occupations	1,660	22,760
Waiters and Waitresses	1,610	18,790
Carpenters	1,450	30,240
Maintenance and Repair Workers, General	1,390	27,990
Retail Salespersons	1,360	23,350
Customer Service Representatives	1,340	25,940

¹⁰ Ibid

Table 2: Highest Paying Occupations, By Annual Pay

	Jobs/1000	Annual Pay
Chief Executives	880	\$115,760
Pharmacists	60	109,470
Cost Estimators	**	109,070
Architectural and Engineering Managers	40	106,360
Transportation, Storage, and Distribution Managers	70	99,870
Education Administrators, All Other*	220	95,860
Lawyers	120	94,090
Managers, All Other	60	92,730
Education Administrators, Postsecondary*	30	89,330
Electrical Engineers	90	88,590
Mechanical Engineers	30	82,300
Legal Occupations	320	81,060
Architects, Except Landscape and Naval	50	77,700
Financial Managers	270	76,630
Computer and Information Systems Managers	40	76,170
Management Occupations	5,300	74,590
Environmental Scientists and Specialists, Including Health	40	73,400
Compliance Officers	190	73,380
Civil Engineers	290	73,110
Architecture and Engineering Occupations	910	72,010
Purchasing Agents, Except Wholesale, Retail, and Farm Products	160	71,100

The nine (9) occupations highlighted in Table 1 above are highly correlated between this BLR chart for highest level of jobs available, the *Guam Short Term Occupational Projections*, and existing programs at Guam Community College.

Seven (7) of the top 20 high paying occupations highlighted above are not only part of the offerings at Guam Community College in the Associates of Arts program, but correlate highly to positive increases in job availability in the *Guam Short Term Occupational Projections* from the Bureau of Labor Statistics (BLR).

Table 3: Highest Levels of Jobs Available – Within Top 20

Job	Degrees and Certificates at GCC
Food Preparation and Serving Related Occupations	
Office and Administrative Support	AA and Certificate Programs
Education, Training and Library Occupations	AA, Certificate, and High School
Healthcare Practitioners and Technical Occupations	Certificate (Early Childhood)
Personal Care and Service Occupations	Certificate (Cosmetology)
Construction and Extract Occupations	Certificate (Construction
Installation, Repair and Maintenance Occupations	Technology)
Carpenters	
Maintenance and Repair Workers, General	
Architectural and Engineering Managers	AA
Education Administrators, Postsecondary + All Other	AA, Certificate, and High School CTE
Electrical Engineers	AA
Mechanical Engineers	AA (Automotive Technology)
Computer and Information Systems Managers	AA, Certificate, High School CTE
Environmental Scientists and Specialists, Inc. Health	AA, Certificate (Nursing-related)

These projections provide solid information so that future institutional context and potential commitments to new programs and courses may be achieved. Current rises and declines in enrollments in existing programs will also help focus on future developments, and those data will assist faculty to work with their department chairs in deciding where to offer new courses and programs.

While the figures above may provide interesting information about best paying and highest level of jobs available it is also important to scan the *Guam Short Term Occupational Projections (2012 – 2014)* to assess how much and where high employment projections (Table 4) ride to assimilate and understand strategic directions for GCC to explore in the near future, especially if Distance Education opportunities will increase for current and future students.

In drawing conclusions regarding effectiveness of program and instructional strategies, systematic and regular collection and evaluation of timely data is required. Best practices from accrediting groups such as AACJC/WASC require regular assessment and evaluation feedback from students as customers about their experiences, skills accumulation and success in meeting their stated goals within a reasonable period of time with current programs. Regularly scheduled in class and online evaluations provide valuable lessons to the direction and overall success of the college program to keep learning thriving. An increased emphasis on Gainful employment, use of federal funds for online courses or programs that have not been accredited are beginning to take on more relevance with the US department of Education. As the college reviews programs and prepares for DE offerings, it will be important to see the voice of the potential student, but also have a clear understanding of current and future market trends.

Table 4: Occupational Titles With More Than 5% Rise in Employment

<u>Titles</u>	<u>% Change</u>	<u>Average annual openings</u>
Construction Managers	8.4%	8
Food Service Managers	4%	9
Medical and Health Services Managers	5.3%	2
Loan Officers	6%	3
Database Administrators, Network Systems and Data Communications Analysts	8.3 - 10.5%	43
Education (All types)	Up to 8.3%	
Environmental Engineering Technicians	21%	52
Healthcare Support, Home Aides and more	6%	27
Market Research Analysts	5.3%	2
Lifeguards, Ski Patrol, and Other Recreational Protective Service	8%	18
Food preparation, Serving and Related Occupations	~6%	1,058
Tourism Industry including personal care, guides, concierges, sales, hotel/motel resort desk clerks, travel agents	1 – 9%	253
Construction and trade workers of all kinds, helpers, and supervisors	4 – 19%	471

Projected change and annual growth rate, nonagricultural wage and salary employment, by major industry, 2010–2020

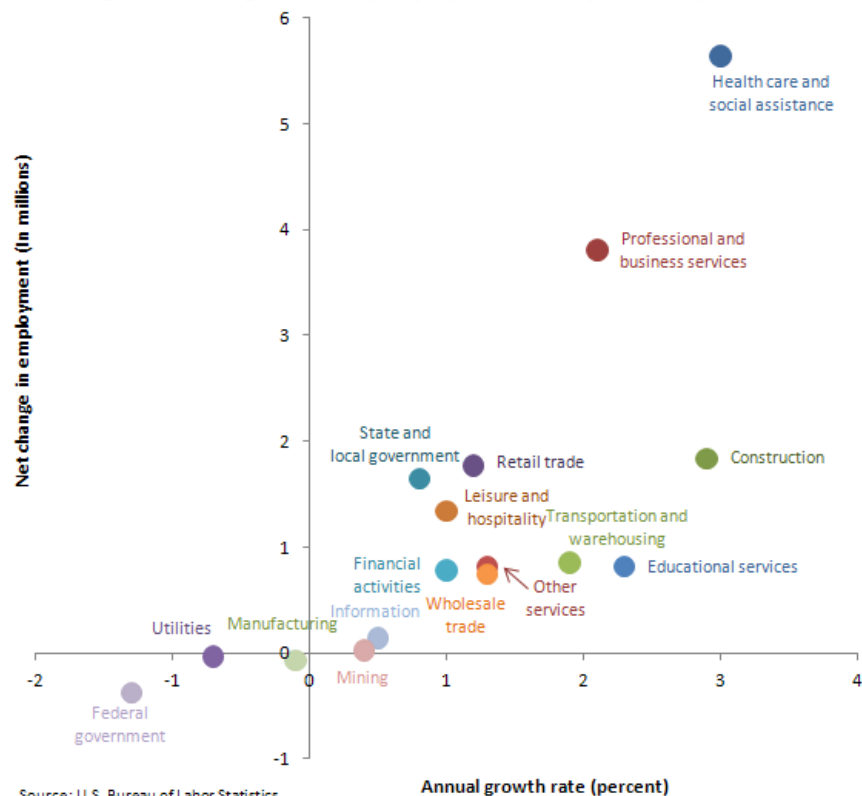


Figure 1: Projected Change and Annual Growth Rate, Nonagricultural Sector

Bureau of Labor Statistics, U.S. Department of Labor, The Editor's Desk, Employment projections for major industries, 2010–20 on the Internet at http://www.bls.gov/opub/ed/2012/ed_20120202.htm (visited February 11, 2013)

Source: U.S. Bureau of Labor Statistics

What are peer institutions doing?

As part of the market analysis, it is important for GCC to review which institutions offer distance education programs within its geographic region. Current research suggests that most online students enroll in programs that are within a 100 mile radius of their institution. At this time the institutions that fit this model as potential competitors for students on Guam is UoG. Other colleges that can be considered are presented below (Table 5). As indicated, most of the colleges do not offer online programs, however several offer ed2go courses similar to GCC as an added benefit for workforce development students. Following discussions with GCC CE personnel, they indicated that there was minimal enrollment in the courses offered through ed2go once the students realize that the courses do not offer credit. UoG offers online courses, but preliminary feedback suggests that students do not have a consistent experience, courses are not developed to meet quality matters best practices, and they do not have an active online student support system. Other institutions such as Northern Marianas College also offer online courses, however the infrastructure is unstable and socioeconomic factors make it difficult for students to take advantage of the opportunities provided by the college to online students. College of Micronesia whose students are eligible for Pell Grants is of particular interest because students from the Federal States of Micronesia (FSM) attend GCC. At this time, College of Micronesia they has not successfully implemented distance learning, however in the event that they would develop their infrastructure they would be an institution to consider as a competitor.

Table 5: Comparison of GCC Peer Institutions

Guam Community College <ul style="list-style-type: none"> • Accrediting Commission for Community and Junior Colleges (ACCJC) • Western Association of Schools and Colleges (WASC) • Partnered with Ed2go (turnkey DE solution) <p>Tuition Resident (\$130.00), Non-Resident (\$155.00) Fall 2013 Enrollment – 2,727 Mainly traditional-aged students –</p> <ul style="list-style-type: none"> • 20 and younger (37%) • 21-25 (35%) 	American Samoa Community College <ul style="list-style-type: none"> • Location – Mapusaga, Island of Tutuila in American Samoa • Description – 2 year WASC College • Enrollment – 2,188 (2009) • Offers AA, AS, and Certificate Programs • No evidence of an institutionally supported DE effort • College does offer Moodle, but unable to determine the degree of implementation 	Northern Marianas College <ul style="list-style-type: none"> • Location – United States Commonwealth of the Northern Mariana Islands • Description – 2 year community college (accredited ACCJC) • Enrollment – 930 (2007) • Offers AA, AS, and Certificate Programs • Partnered with Ed2go (turnkey DE solution) <ul style="list-style-type: none"> ◦ NMC ed2go information sheet - http://www.nmcnet.edu/media/ed2go_nmc_flyer_2012.pdf: ◦ Instructor facilitated and self-paced ◦ Six week duration with a 10 day grace period ◦ Online courses and career training programs
College of the Marshall Islands <ul style="list-style-type: none"> • Location – Marshall Islands • Description – 2 year community college (accredited ACCJC) • Offers AA, AS, and Certificate Programs • Does not appear to have a DE or web-enhanced learning presence 	University of Guam <ul style="list-style-type: none"> • Location – Mangilao, Guam • Description – four year land grant • Enrollment – 3,387 and 180 academic staff • Offers Bachelor's in 34 areas and Master's in 11 areas • Also a partner with Ed2Go. <p>Online Offerings</p> <ul style="list-style-type: none"> • Business Administration / PMBA (on campus and online) • Master in Education: Reading (Online Only) <p>University of Guam Moodle - http://campus.uogdistance.com</p>	College of Micronesia – FSM <p>Location – Federated States of Micronesia</p> <ul style="list-style-type: none"> • Enrollment – 2,915 (2011) • Description - 2 year institution • Very much of a data driven institution • Strategic Plan available - http://www.comfsm.fm/irp/Planning/Strategic_Plan_2013_17.pdf <p>Strategic plan mentions the need to explore distance learning opportunities in association with “emphasize academic offerings in service to national needs. The associated goal: Strategic Plan Goal 2.1: Increase the number of 4 year program opportunities.</p>

The University Of Maryland University College (UMUC) is considered a peer institution by GCC. In looking at the FTE data from 2006 – 2013 (Table 6), it is interesting to note that students emanating from Guam would fall under the category of Asia, yet the majority of these students come from Japan, South Korea, Philippines and China. The number of degrees conferred at the Associate level for the Asian division was at a high of 374 (2007) and in that year the FTE was 4107. In looking at stateside students, the number of Associate degrees that have been awarded has continued to steadily increase over the past 6 years with a high of 472 degrees conferred in 2013 in a year that the FTE was 17,160. It may be worth reconsidering UMUC as a peer institution. UMUC has an infrastructure and financial resources that do not parallel those of GCC, therefore using UMUC as a benchmark may not align with GCC growth and market needs. Furthermore, UMUC's DE is supported by the whole UM higher education system which in effect reduces the financial impact of providing online courses to a national and global student body.

Table 6: Full-Time Equivalent Students (UMUC)

	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Stateside								
Undergraduate	10,591	11,775	11,811	12,023	13,603	14,330	17,118	17,160
Associate's								
Degrees	108	169	191	248	295	285	398	472
Total	14,809	16,588	17,055	18,368	20,602	22,089	25,390	25,110
Asian								
Undergraduate	4,796	4,103	4,198	3,630	3,939	4,037	3,878	2,284
Associate's								
Degrees	338	374	329	207	261	253	260	335
Total	4,823	4,103	4,241	3,658	3,964	4,039	3,878	2,284

University of Maryland University College (UMUC) Fiscal Years 2006 - 2013
<http://www.umuc.edu/visitors/about/ipra/upload/umuc-fact-book-fy-2013.pdf>

Conclusion

Guam CC is in a prime position to become a leader in providing its target population with online courses and programs that have been developed with student success in mind. The limited number of peer colleges and universities that offer robust online programs would allow GCC to differentiate quite effectively in this pacific marketplace. Several students select GCC as their institution of choice because of cost differentials. As presented in the table 7, amongst colleges in the Pacific islands, its tuition & fees are by far the lowest, followed by College of Micronesia. UMUC has a much lower tuition than GCC,

however a Maryland resident looking to take a full course load would probably opt to join UMUC because of lower coupled with online access. Please note that the tuition and fees presented below were from the 2012-2013 school year and may be a little different at this time. The data indicates that GCC would

Table 7: Tuition and Fee Comparisons Across Peer Institutions

Institution	Tuition & Fees (\$) (Full time students)	
	Resident	Non-Resident
Guam Community College	3120	4320
University of Guam	5058	14058
College of Marshall Islands	4370	4370
College of Micronesia	3891	3891
University of Phoenix	4608	4608
UMUC	3036	6144

remain relevant in the market place and could definitely differentiate on price if the tuition and fee structure were to remain the same or relatively similar for the online courses.

In order to attract students from FSM to attend GCC, the \$450 tuition & fee difference would have to be made compelling for the student. Although this difference may seem like a barrier, the FSM student would be able to remain at home and minimize expenses on room and board. Granted, the student would be spending ~ \$145/month on internet access but that is still relatively minimal when compared to room and board for a whole semester, in addition to costs incurred for travel.

Who is looking for information on GCC's website?

In reviewing potential territories for DE delivery a snapshot of the latest traffic to the college website was provided by Jayne Flores. As indicated below (Table 8), residents on Guam are the largest group of website visitors, followed by the US main land. The Micronesian islands fall under the purview of the college mission, but Northern Mariana Islands and Micronesia have minimal traffic volume, albeit they exhibit the highest number of pages viewed per visit and the longest average duration per visit.

Table 8: GCC Website traffic – Location data

Country/Territory	Visits	% New visits	Pages per Visit	Avg. Visit Duration (min)
Guam	59432	35.66	1.68	2.45
United States	1717	58.3	2.81	2.54
Philippines	117	63.25	2.04	2.47
Japan	88	76.14	3.3	2.59
Northern Mariana Islands	82	65.85	4.15	6.16
Federal States of Micronesia (FSM)	28	42.88	4.5	5.56

GCC - WSI Location report 1/28/14 to 2/27/14

Guam has a population of 182,111 (2013), while FSM has an aggregate population of 103,395 (2012) and the Northern Mariana Islands was estimated to have a population of 51,170 in 2013. Although the combined population of FSM and Northern Mariana Islands is a little less than Guam's, there is a significant gap in GDP, infrastructure and access to resources.

Cost efficient, stable and easily accessible internet is critical for DE students. Following extensive review, it was determined that internet access in FSM is expensive and limited. FSM telecommunications corporation (FMCTC) charges 8 cents per mb (either received or sent). Dial up rates through FMCTC are at about \$149.95 for 15 users for a total of 120 hours of dial up access. A full time online student would probably use all of those hours in a single month to support their course work when coupled with recreational browsing. Some cheaper dial options are \$19.95 per user for 10 hours of dial-up access, however the students would encounter significant difficulties downloading course content (especially audio-visual) and would still incur about \$150 in order to successfully participate in the online environment. Dial-up speeds are slow, and may account for the longer average minutes per visit noted on the website from FSM browsers. Although the college is very interested in providing access to FSM, it seems there may be both infrastructure and financial barriers for student populations from the islands at this time. Based on the large Philippine and Japanese communities on Guam, it may be worthwhile to determine if these are plausible markets for specific programs offered by the college.

Note: Additional website analytics to determine what pages are most visited and specific programs being sought would be a good starting point for the college to determine whether the web traffic can indicate interest in current institutional programs.

Market Differential

To differentiate an educational program in the online market place, students seek *value add* qualities. An example of a *value add* quality is an external validation of a student's competency through accreditation or certification. With the increase of student engagement in online learning and a ripe employment market, it is the recommendation of Ellucian that GCC discuss and strategize around loosely categorized new programs in areas shown above that demonstrate considerable increase in hiring, wages or availability of jobs for focus areas within Guam. New programs will minimize cannibalization of current students and will increase the prospective pool of students.

1. In drawing conclusions regarding effectiveness of program and instructional strategies, systematic and regular collection and evaluation of timely data is required. Best practices require regular feedback from students as customers in their experiences with DE programs and courses. Regular review of survey data designed to identify improvement, success and further work in DE is necessary. Preliminary results from the following surveys will enable the college to determine its current readiness to enter the DE market.
 - a. Online student readiness. Whereby the survey explores student expectations of online classrooms, technology preparedness, study skills and habits, access to computers and knowledge of common software. Students receive immediate feedback upon completion of the survey, and the college ensures that each student is provided with both thoughtful responses about their intrinsic knowledge of technology, study habits and organization, learning style, and directions on how to increase their abilities to follow focused directions and attention to detail. Students then decide whether or not to wait to take an online class while they improve one or two skills needed to be successful.
 - b. Faculty self-evaluation of online teaching readiness. In this case, faculty complete a survey that measures online teaching philosophy, DE awareness, DE expectations and overall online skills and preparedness. As a result, faculty often receive additional training for improvements in managing their online classroom.

Taken together, an assessment of institutional faculty and students in addition to prospective faculty and students will provide the college with a clear perspective on student and faculty needs and gaps. The investment in creating a culture of online learning would then be assessed relative to the benefit obtained from developing online programs, and a Return-On-Investment determined -- insufficient student and faculty readiness have been shown to cripple online programs.

2. Also worthy of review is the development of higher level courses that meet the needs of rising graduates and the Guam workforce. Students that see extended time to completion while awaiting 200 level courses would have their needs met, in addition to providing an avenue for the local workforce to enroll in courses offered by the college, but at their own time.
3. There are about 18,000 potential adult education students on Guam. Diploma readiness courses that are flexible but interactive may be appealing to this demographic on Guam, however a clear needs and technology capability assessment would be required to determine whether who would be best suited for DE at GCC.
4. Lastly, research has shown that most online students prefer to enroll in a program that is within a 100 mile radius of their home. The college attracts close to 500 students/year/high school in dual enrollment and college readiness programs. There are five high schools directly affiliated with GCC, suggesting that there are anywhere from 2,000 – 2,400 students directly impacted by GCC culture on an annual basis. It was noted that there is an attrition rate of about 50% from 10th → 11th grade and an additional 50% attrition from 11th- 12th grade. These students are already primed for a college experience when they first engage with GCC in 9th grade and would be a ready market for online courses that meet their needs. A survey of these students interest in DE would be beneficial in determining whether GCC has an opportunity to cater their needs since they already see the value of a GCC education. This mitigates risk involved in seeking students that are greater than 100 miles away from the college.