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Bridging a Gap: A.S. to B.S. Articulation in Florida

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Introduction

The state of Florida has made a commitment to increase the educational level of its population, especially its workforce, by increasing the numbers of bachelor degrees awarded annually. The ambitious goal goes hand in hand with significant efforts to bring high technology industry and employment to the state. This state level goal, along with the burgeoning population in its schools and institutions of higher learning has forced the state to focus on its educational system as a means to achieving its objectives. Current discussions within the Florida Department of Education indicates that an additional 15,000 new bachelor degrees need to be awarded annually to meet Florida's job market requirements. To this end, a number of state level educational initiatives have been undertaken over the last few years to make the educational system more efficient as well as more productive. As part of this more global effort, Florida implemented a statewide transferable Associate of Science (A.S.) degree in 2000 for twelve (12) career fields. Previously, the A.S. degree was considered to be a terminal degree and a course of study where a student could obtain significant workplace skills in a particular discipline with only the most necessary supporting general education requirements. The paradigm shift to define A.S. degrees as transferable also outlined the criteria for the community colleges to define Associate in Applied Science (A.A.S.) degree as a terminal degree.

Most of the community college program and degree programs have been restructured, and efforts are beginning throughout the state to articulate various A.S. degrees to appropriate B.S. programs. This paper will review some of the new and innovative approaches various institutions are taking to developing new A.S. to B.S. articulation agreements.

State-Wide-Activities

Under the new criteria, all Florida A.S. degree programs can develop their own articulation agreements with appropriate upper division programs throughout the state. However to further promote this initiative; the state designated twelve Associate of Science degrees to be automatically articulated to specific university programs. To date, only five AS degree programs have been approved for articulation to a Bachelor of Science degree. These programs are Electronic Engineering Technology, Radiography, Nursing, Hospitality and Tourism Management, and Business Administration. There is currently an AS to BS in Criminal Justice pending action by the statewide SUS/CC Criminal Justice Committee. There is currently no action underway to articulate the remaining six programs. These Career Ladder Agreements were the work of a task forces in each discipline comprised of representatives from both A.S. and

B.S. programs throughout the state. The Career Ladder Agreements include specific courses for the associate and bachelors programs, number of hours transferable and some residency requirements prior to award of the final degree. All of the recently State approved five AS to BS degree programs require a 16-18 credit hour core general education curriculum to meet the BS general education requirements. The 16-18 credit hours general curriculum consists of transferable Freshman English I and II, Social Science, Natural Science, Humanities/Fine Arts, and Mathematics courses. The automatically articulated A.S. programs and the receiving programs at the colleges and universities are listed in Table 1.

A.S. Program	University Degree Program	Total Credits for B.S. Degree
A.S. Radiology	B.S. Radiologic Technology	132
A.S. Nursing	B.S. Nursing	128
A.S. Hospitality and Tourism Management.	B.S. Hospitality Administration/ Management (programs not accredited by AACSB)	124
A.S. Electronic Engineering Technology	B.S. Electronic Engineering Technology	128
A.S. Business Administration	B.S. Business, General, Business Administration and Management	131

Table 1. Florida Career Ladder Articulation Agreements

At the same time, the A.A.S. degrees that evolved out of the old A.S. degrees were to continue as postsecondary adult vocational programs that could have non-transferable general education courses.

College Initiatives

By the middle of 2002, most of the community colleges had completed the required restructuring of their A.S. degree programs and implemented desirable A.A.S. programs in their institutions. At this point, the community colleges and individual universities entered into dialog to begin investigating possible University programs for articulation with their newly restructured A.S. programs. Traditionally, few articulation “Capstone “ agreements existed for these A.S. programs. However, several programs had a university transfer curriculum that students could choose if they thought they might eventually transfer to a bachelor degree program upon completion of their A.S. degree. For example, Hillsborough Community College’s A.S. degrees in Electronics Engineering Technology and Nuclear Medicine Technology could transfer to the Bachelor’s degrees in Industrial/Technical Education at the University of South Florida’s (USF) College of Education through a local articulation agreement. None of these transfer options were very well populated in programs that offered them, nor were they marketed. Few appropriate four-year programs existed in the state which was compatible with the disciplines of the A.S. degree area. Notably, the two additional “Capstone” articulation agreements were the established Engineering Technology Programs at the University of Central Florida (UCF) and the Florida A and M University (FAMU). These three State Universities have been extremely eager to participate in developing local “Capstone” articulation agreements with the 28 community colleges in Florida.

To meet the needs of this potential new population of rising juniors, many of Florida's four-year degree granting institutions are currently developing new Bachelor Degree programs that will accept the newly transferable Associate in Science degrees offered at the community colleges. The new university programs are developing as Bachelor's Degree in Applied Science that will have multiple areas of concentration. For example, the new Bachelor of Science in Applied Science (BS in AS) program at USF will offer upper division curriculum in the areas of Gerontology, Urban Studies, and Business Administration. The plan is designed to specifically serve the continuing educational needs of students who have earned community college A.S. degrees and utilize existing courses and resources at the university. In these programs, the A.S. degrees from Florida community colleges will be transferred as a block of 60 credit hours toward the B.S. in A.S. degree. The remaining 60 credit hours will be earned at the university, 48 of which are required to be upper division courses. Other programs across the state are being similarly revised, focused on local needs, existing courses, and available resources. Many of the local "Capstone" agreements will be listed in the updated Statewide Articulation Manual due to published in February 2003 on the WEB at the FACTS.org site.

There is a current movement within the State University System (SUS) to enter into a 2 + 2 arrangement with selected community colleges. The 2 + 2 agreement is based on the community college meeting the first two years of a discipline specific curriculum for an already established BS or BA degree within the university. The final two years of the four-year program would be completed at the local university or within a joint partnership center. The State AS to BS program, local "Capstone" articulation agreements, and the 2 + 2 programs offer great flexibility in meeting student needs and the new state goals for bachelor degrees.

Motivation

To make Florida a global leader within the high technology arena, filling the current and future needs of the scientific, engineering and technology workforce has grown to become a critical need. The severity of the need varies at different levels of the workforce to include the post baccalaureate degreed scientists and engineers who move into research and development positions to the post secondary vocationally trained operators and technicians working on a shop floor. Numbers of students pursuing technical training and technical educational pathways at all these levels are dwindling in Florida and across the country. Recent data indicates that 80% of new jobs require some level of post secondary education to meet job requirements. This trend will increase as science and technology merge and create new industries requiring a highly trained and educated workforce to meet the demands of the marketplace.

Many educational and governmental organizations across the nation are looking for new ways to shift the momentum and turn around these current downward trends. At the state level, Florida has also been focused on these issues for the last decade. The problem is complex but the state's need for a trained workforce for technically oriented industries and businesses is critical. Furthermore, the problem is compounded with the state's already overcrowded schools, colleges and universities, it's goal to greatly increase the number of Floridians who hold bachelor degrees, and its committed efforts to attract high-technology industries to the state.

Traditionally, the well-known and well-trod path to a bachelor's of science degree in science or engineering exists and provides trained scientists and engineers as well as a group that continues graduate education in science and engineering. The perceived difficulty of the academic courses, the pay scale for working professionals at different levels for the spectrum of workers, and the mediocre level of social respectability for these professions, work against any marketing efforts to attract students into these professions. A variety of innovative strategies have been devised and implement to lure more students into science, engineering, technology, and math as well as applied technology career paths over the last twenty years. Of course, there have been some localized success stories. But the general trend of decreasing numbers of graduates in these degree programs continues.

One strategy has been to revitalize marketing of the A.A. to B.S. programs with increased focus at the community college on teaching and learning, taking advantage of smaller class sizes, and developmental learning laboratories. Students who need developmental courses and remedial studies can prepare themselves very well before taking the university prerequisite courses. The required transfer program prerequisites at the 1000 and 2000 levels can be taken at the community college following the statewide course numbering system. This necessary process may require them to take additional hours in preparatory work for their total program.

Current marketing efforts of A.A. to B.S. degrees are being coupled with marketing efforts for the new A.S. to B.S. transfer options giving students more choices, as well as more opportunities to continue their education. Elevating A.S. degrees to a status similar to A.A. degrees will make them more attractive to incoming students. They will also be looked on more favorably by counselors at the high school and college level, who traditionally lean toward advising students to pursue the transferable degrees. Furthermore, A.S. degrees are by definition, more "hands-on", these degrees could become a popular route to bachelor degrees.

Florida Supporting Initiatives

Common Course Numbering System. In the 1990's Florida adopted a common course numbering system throughout the state for all its post secondary educational institutions in order to facilitate the pathway to obtaining the Bachelor's degrees from the states' public institutions. This means, for example, a student taking Freshman English, or English Composition, or College English I at any of the state's 28 community colleges or ten universities takes a course with the same prefix and number. This plan allows students to easily transfer courses between the educational institutions within the state system. With the exception of issues related to residency requirements for earning a degree at a given institution and some occasional snags in disciplines where program accreditation agency criteria are not satisfied, students in the state systems can literally move their earned credits from school to school quite easily, as long as they are in good academic standing. Particularly, this system facilitated the transfer between the two- and four-year institutions for Associate of Arts degrees to Bachelors of Arts or Bachelor of Science (A.A. to B.A. and A.A. to B.S.) degrees seeking students.

In 2001, the Florida system reported course information and identifying numbers and prefixes for more than 120,000 courses offered by 38 state supported vocational schools, 28 public community colleges, ten state universities, and two private two-year colleges. This system is maintained by approximately 170 faculty discipline committees, 78 institutional coordinators,

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and 5 Department of Education employees. Course prefixes and numbers are assigned at the state level. When an institution wants to offer a new course, it submits supporting documentation about the course content and prerequisites for the governing board to assign a prefix and number. Before assigning a unique number, the supporting materials are compared to those submitted for other similar course on record in the state. Prefixes are defined by discipline and the four digit number is interpretable as follows: first digit indicated the level of course by year in college that the particular course is normally taken at a given institution. The last digits designate the course content.

Program Downsizing. During the last ten years, Florida also required the downsizing of many of the Bachelor Degree programs that had, over the years, suffered from the proliferation of courses. Many departments added courses to the degree programs without eliminating any of the dated material. Many degree programs were requiring well over the state defined minimum 120 credit hours for the bachelor degree. Some departments and disciplines were given variances to the standard 120 credit hours particularly if they were bound by an accreditation agency that had content requirements that must be met. Most engineering degree programs in Florida, for example, require more than 120 hours for graduation. (However, these programs were required to reduce the required credits for graduation to 128, down from numbers exceeding 140-credit hours.)

Summary

Florida has been a leader among the states in statewide course numbering and general articulation efforts with the public schools, colleges, and universities. The transfer of the A.A. degree has been a great success. However, the transfer of A.S program courses between community colleges and universities has only recently received major attention due to the technological requirements of the workforce.

Students have not always been motivated to select early career goals and prepare themselves for the math and science requirements for career success in the technologies and skilled professions. The success of these programs will continue to require expanding the vision of students, enabling them to become motivated for successful completion of programs leading to jobs in advanced technologies.

In the past, community colleges and universities in Florida have not been enthusiastic partners in the area of transfer students. Intellectually, this paradigm was significantly out of phase with the current workforce climate and needs. Florida is now recognized as one of the national leaders in articulation and transfer but more work is required. Florida is now following the paradigm that suggests that, in the twenty-first century, all students, regardless of educational level, must be prepared for live-long learning, they must keep up with technological changes in current workforce environments and be prepared to successfully survive a number of career changes during their life times. Some of this can be addressed by getting more students into formal four-year degree programs. This, in turn, requires more innovative or alternative degree programs to attract those students not really inclined or interested in traditional, academically oriented, four-year degrees.

Agreements that facilitate these A.A. to B.S transfers are reasonably well-designed processes between the state's academic institutions, and these agreements augment the supply of B.S.-degreed graduates in Math, Science, and Engineering coming straight through the universities. The state of Florida has instituted a new, exciting alternative path to a four-year degree for students enrolled in A.S. programs by designating the A.S. degree as transferable to university bachelor degree programs. This paradigm shift provides new educational opportunities for students enrolled in these programs. They can now choose to continue their studies and obtain a bachelor's degree in a variety of new programs related to their A.S. degree discipline throughout the state. New marketing strategies that optimize on these transfer options are highlighting A.S. to B.S. transfer options together with the traditional A.A. to B.A. and B.S. options. Together with its state wide common course numbering system and streamlined degree programs, Florida's focus is to offer more educational opportunities to its population than ever before and, thus, looks forward to a more highly educated workforce in the 21st century.

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