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# Academic Plan

**Executive Summary  
October 2007**



**MADISON**  
AREA | TECHNICAL  
**COLLEGE**

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## Madison College Strategic Vision

Transforming lives, one at a time.

## Madison College Strategic Mission

Madison Area Technical College provides accessible, high quality learning experiences that serve the community.

## Madison College Values

- Excellence
- Respect
- Integrity

Madison Area Technical provides equal opportunity in education and employment.

A copy of this publication and the Executive Summary can be found at the following URL:

<http://matcmadison.edu/in/academic-plan>

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# **Madison Area Technical College (Madison College) Academic Plan**

*Meeting the Needs of the Madison College District*

## **EXECUTIVE SUMMARY**

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October 2007

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# Madison Area Technical College Academic Plan Executive Summary

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# Executive Summary

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## Overview

The Academic Plan examines projected demographic and economic trends, as well as trends in higher education, and the world of work over a five- to 10-year horizon and highlights those that will most significantly affect how the College plans to meet the educational and training needs of our district residents. It builds a model for future programming and outreach activities by making recommendations about how to conduct its varied educational activities. The plan is guided by the Madison College Board End Statements, the College Council Goals, and is consistent with the College Enrollment Management Plan. The Academic Plan guides the program related decisions at the College over the next five- to 10-year period of time. The contents of the plan will determine the contents of the Financial, Human Resources, Facilities, and Technology plans.

Madison College remains committed to academic programming in technical and occupational education and transfer and liberal arts education. The College believes transfer and technical education are not mutually exclusive and encourages blending of the two educational goals whenever possible. In addition, the College will continue to offer programming in developmental education, workforce development, customized training, and adult and continuing education for lifelong learning.

## Academic Plan Activities

This plan is the product of many activities designed to maximize the participation of faculty, staff, and external stakeholders. Its recommendations are based on that input and research into expected demographic changes, the economic outlook for jobs, and trends in higher education. Activities related to the plan include presentations to the College community, faculty interaction with external technical experts, faculty input department by department, face-to-face meetings with program directors and lead teachers, surveys of every college advisory committee member, and three focus group sessions with external stakeholders nominated by staff and faculty. The College community reviewed the draft plan and provided feedback. That feedback is incorporated into this final draft of the Plan.

## Enrollment and Demographic Trends

The Madison College District population is growing at rates that exceed national and state averages. The enrollment at Madison College is declining as a percentage of the District population. In 2000, Madison College served 10.2% of the adult population and in 2006 it served only 7.8% of that population. The District population is aging. Median age in 2000 was 34.7 – in 2011 it is projected to be 37.1. The population over 25 is increasing at a much faster rate than the population under 25. Race and ethnicity shifts are occurring throughout the District as well – particularly with the growth in the number of Hispanic and Asian residents. Minority residents are increasing overall as a percentage of total population, and those minority residents tend to be much younger.

### Recommendations – Enrollment and Demographic Trends

1. Increase Madison College enrollment to match the Enrollment Management Plan goal of serving 9.9% of the adult population by academic year 2011-2012. In order to reach that goal the College should take the following steps:
  - a. Serve more students from the 18-24 year age group in the next five years in order to maintain healthy FTE growth.
  - b. Prepare to serve an increasing number of minority students – especially those that are in the 18-24 year age group.
  - c. Determine the needs of students from the 25-54 year age group and devise strategies to meet those needs.
  - d. Determine the needs of students in the fast growing 55+ age group and devise strategies to meet those needs.

- e. Set specific enrollment targets (headcount and FTE) for each program area offered at the College.
- f. Regional campuses and Deans must collaborate to set specific enrollment targets (headcount and FTE) for each regional campus area that reflect population growth rates and specific needs in those areas.
- g. Plan to meet facilities and space related challenges related to rapid enrollment growth and enhance learning environments across the College District.
- h. Plan to meet the need for faculty and staff positions related to enrollment growth district-wide.

## Educational Attainment and Workforce Participation

Educational attainment levels are primary drivers of economic growth. There are at least 250,000 residents of the District who are high school graduates (or aspirants to GED/HSED) and who lack a college degree. Latino and African American residents lag behind White residents in degree attainment at every level of education. Associate degree holders in Wisconsin earn significantly more in wages than associate degree holders nationally.

### Recommendations – Educational Attainment and Workforce Participation

1. Market the economic advantages of an associate degree to the Madison College District population – especially Latino and African American residents.

## Student Academic Preparedness

There are an increasing number of students entering Madison College who are not academically prepared to succeed. Significant numbers of state residents do not hold a high school diploma in a time of expected labor shortages. Significant numbers of those residents are new immigrants and/or persons of color. Even for those who complete high school, the gap between minimum high school graduation requirements and academic preparation necessary for high-level (and high-wage) technical, health, and transfer programs is large. Students in Adult Basic Education do not transition to associate degree programming at high rates. There is a perception among the general public that the technical colleges offer a less challenging academic experience than the four-year colleges in the state. That perception coupled with the open admissions mission of the system combines to create an impression that academic preparation is not as vital for an entering student in a technical college as it is in a four-year college.

### Recommendations – Student Academic Preparedness

1. Redesign college practices in basic education, remedial, and developmental education to increase the number of students transitioning from those courses to credit programs, certificates, and transfer courses.
2. Continue the focus on student academic preparedness by doing the following:
  - a. Build better bridges with high school faculty and community-based organizations to communicate the preparedness levels needed to succeed in Madison College programs.
  - b. Fully implement the Mandatory Assessment Advising and Placement initiative, including the Adult Basic Education (ABE) comprehensive assessments, and offer the appropriate assessments to District high school students.
  - c. Design programs specifically targeting young minority students at risk of lacking appropriate academic preparation.
  - d. Link high-level English Language Learners (ELL) and ABE programming directly to occupational and transfer programs. Offer pre-program student status to students enrolled in these courses – especially for those on program wait lists.
  - e. Assess the effectiveness of high school completion options and programs.
  - f. Continue curriculum articulation work between College Preparedness & Academic Advancement Center (CPAAC) and the other academic Centers.

3. Engage in the design and implementation of the Wisconsin High School Senior Year initiative to promote greater student preparedness when entering Madison College.
4. Motivate entering students to academically prepare for studies at Madison College by developing a strategy to change perceptions of Madison College from a college of “second choice and second chances” to an institution of higher learning with a hands-on, student-focused, practical approach to education.

## The Changing World of Work

The shift from repetitive physical work to “knowledge work” is well upon us. Global competition has created the need for more global awareness and cultural competence. It has also lead to outsourcing many high paying jobs. Manufacturing has been hit hardest by outsourcing, but many businesses will soon be affected. Workers, who can use knowledge, solve problems, cross disciplines, and work autonomously, will have a competitive advantage in the future labor markets. These “Gold Collar” workers can fill technical jobs that do not necessarily require a baccalaureate degree. Faculty at Madison College have called for more and more interdisciplinary programming to help develop “knowledge workers.”

### Recommendations – The Changing World of Work

1. Examine the effectiveness of the current Core Abilities program in building “knowledge workers”. Revise the program as necessary to solidify its role in developing knowledge workers.
2. Infuse the Madison College curriculum and campus with opportunities for global and cultural awareness.
3. Identify programs that lead to gold collar jobs and ensure the curriculum is designed to teach the adaptability skills those positions require.
4. Allocate curriculum planning and development resources to create more inter-disciplinary coursework.
5. Remove internal Madison College barriers to inter-disciplinary studies and work with the Wisconsin Technical College System (WTCS) to eliminate state system barriers.

## Trends in Community and Technical College Education

### ***Career Pathways***

A career pathway is a connected series of education and training programs and support services that enable individuals to secure employment within a specific industry or occupational sector and to advance over time to successively higher levels of education and employment. Each step on a career pathway is designed explicitly to prepare for the next level of employment and education.

Career pathways generally begin in high school and continue through graduate school. Each career pathway is a customized path that fills an important need for workers in the local economy. Usually, a career pathway uses existing programs and services and adapts them to a modularized laddered approach to technical and academic skill building. Curriculum is modular in career pathways so that discrete technical skill sets and/or academic readiness skill targets are met throughout the course of a student’s program. This allows students to move in and out of programs achieving ever higher levels of skills and academic readiness. Career pathways have no dead-ends. Technical colleges can participate in post-baccalaureate career pathways by offering intensive technical skill-building certificates to baccalaureate (or higher) degree holders.

## Recommendations – Career Pathways

1. Direct significant efforts and resources to develop career pathways in all technical diploma and associate degree programs.
2. Take a leadership role in statewide planning to remove system barriers to the career pathways models through the Regional Industry Skills Education (RISE) initiative.
3. Form career pathways teams including Business, Industry, and Community Services (BICS) representatives, faculty, and administrators to build complete pathways for specific identified industries that demonstrate clear paths to advancement for workers.
4. Develop systems that support the collaboration with employers needed to design career pathways by integrating workforce development and business and industry needs into the curriculum design process.
5. Initiate a focused effort to enter into transcribed credit agreements with District high schools in support of career pathways.
6. Expand modularized technical training in high demand fields for working adults who already have degrees.
7. Encourage and reward efforts to build modules within existing programs that lead to identifiable technical and academic skills and allow working adults the flexibility to participate in programs as their circumstances permit.
8. Address facilities and space challenges associated with building modularized technical curriculum.

## ***Economic and Workforce Development***

The trend in workforce development is to design training that meets immediate needs of dislocated workers or incumbent workers that require skill upgrades. Madison College, through its BICS unit and also through the Adult and Continuing Education (ACE) units at all campus locations, has designed and offered several of these short-term credit and non-credit training opportunities to respond to immediate worker needs. Madison College has a strong partnership with the Workforce Development Board of South Central Wisconsin. That partnership has resulted in substantial grant funds for Madison College to design career pathways for workers and to train dislocated workers in new skills, including the new Workforce Innovation in Regional Economic Development (WIRED) initiative. Madison College will be asked to do more of this customized training work in its role as a leader in economic and workforce development. The academic plan focus groups consistently indicated a need for the College to further develop its role in regional economic development.

## Recommendations – Economic and Workforce Development

1. Construct systems that develop faculty expertise in customized training teaching and design.
2. Form rapid response teams to meet emerging industry training needs in specific program areas.
3. Provide availability of faculty and facilities to support customized training needs through flexible scheduling practices.
4. Build faculty expertise in new and emerging scientific and technical fields.
5. Align ACE and BICS functions to provide a clear economic and workforce development training portfolio of offerings.
6. Systematically leverage College expertise to serve incumbent and dislocated workers throughout the entire Madison College District.
7. Address facilities challenges related to offering “just-in-time” training and training in new and converging technologies.
8. Determine faculty and staff needs to increase economic and workforce development work.
9. Determine headcount and FTE goals for each Center in customized training and in Career Pathways training.

## ***Homeland Security and Emergency Preparedness***

Community and technical colleges around the country have taken up the charge to respond to an increased need for emergency preparedness training. Madison College has long been the principal trainer for all types of first responders. Given the breadth of its offerings and the expertise of its faculty, Madison College is well positioned to provide regional leadership in emergency preparedness training.

### **Recommendations – Homeland Security and Emergency Preparedness**

1. Create an emergency preparedness/homeland security training unit that uses expertise in disciplines throughout the College.
2. Address serious facilities and equipment issues associated with increasing and modernizing protective services and emergency preparedness training.

## ***Student Access and Success***

Madison College has invested considerable resources in recent years to promote academic student success. These efforts have resulted in mandatory placement, revisions to orientation, college success courses, and many other innovations. There is a great deal of research on student preparedness and success. As the research evolves, it points to several different dimensions of the student experience that contribute to access and success. Preparation, awareness, financial issues and institutional policies all contribute to the ultimate determination of whether a student begins college and ultimately succeeds. Minority student success rates at Madison College continue to lag behind those of White students. The College can expect to enroll an increasing number of students with disabilities.

### **Recommendations – Student Access and Success**

1. Determine the financial barriers that limit student access to Madison College and make plans to address them.
2. In light of the growing research in access and success, examine existing student development strategies, such as the First-Year Experience strategies at Madison College to determine their efficacy in promoting student access and student success.
3. Investigate the effect of campus locations and learning environments on student access and add new locations where appropriate or enhance as needed.
4. Expand the operating hours of the Madison College campuses to meet needs of various College populations. Extend the offering times for support services to match expanded hours.
5. Examine the effectiveness of the current locations for the Madison College testing center, recommend changes to facilitate the testing process, and expand the mission of the center to serve all student testing needs.
6. Build a comprehensive Learning Center that serves all students regardless of enrollment status. The Learning Center should offer support to students to improve competency in writing, mathematics, social sciences, natural sciences, and technical fields.
7. Expand hours available to access hardware and software for students and faculty.
8. Ensure that students experience ease of access to multiple points of entry to College programming.
9. Build truly integrated systems that provide the appropriate recruitment contacts to enrollment services to financial aid services providing “front door” access and consistent continuing support to students.
10. Develop Campus Life and student support strategies to address student needs in out-of-classroom experiences, co-curricular opportunities, and campus environments.
11. Focus on support programs that address the barriers to success faced by students of color.
12. Build a comprehensive master plan to support students with disabilities.
  - a. Use the principles of universal design in design of learning strategies and work product.

## ***Technology and Education***

The advance of technology and its relationship to the workplace and our culture drive the use of technology at Madison College. Students need to experience the technology they will be expected to use in the workplace. This requires sometimes substantial investments in machinery and equipment featured in state of the art working environments. It also requires knowledge and expertise in maintaining and upgrading software and hardware as technology changes over time. Teaching and learning are also affected by technology. Students expect the convenience and accessibility that technology can provide. The real question is what is next? How do faculty and students use these new tools to create a learner centered active learning environment? How can a taxpayer funded College keep up with the press of technological change and the growing expectations it can create?

### **Recommendations – Technology and Education**

1. Update the physical learning environments at all campuses to enable the use of technology to improve teaching and learning.
2. Use the capital budgeting process in a deliberate manner to provide state of the art equipment and simulators where appropriate and provide a reliable refresh budget to update and replace that equipment.
3. Form partnerships with business and industry to support education in the latest technologies.
4. Examine the technology support infrastructure to determine the level of support required to maintain the College equipment, hardware, and software used in instruction and instructional support. Examine alternatives to provide necessary support to faculty, staff, and students.
5. Study best practices in using technology to improve teaching and learning and encourage experimentation with the most promising approaches.

## ***Transfer in Wisconsin Higher Education***

The UW system and the WTCS system have been engaged in several projects designed to increase the number of baccalaureate degree holders in the State. Wisconsin ranks 30<sup>th</sup> in the percentage of adults with bachelor degrees and 9<sup>th</sup> in the percentage of adults with associate degrees. Several strategies, including degree completion programs for technical associate degree holders, degree completion programs in areas of high demand (Business, Nursing, Early Childhood, and Special Education), and career focused pre-major associate degree programs, along with other collaborative strategies, have been recommended as ways to address these issues. Transfer between higher education institutions is an essential element of the career pathways strategy. There are not sufficient seamless transfer agreements between Madison College and the UW system. At Madison College, transfer education and technical education need not be mutually exclusive. Private four-year colleges have recognized this fact for years. The UW system still presents barriers to the idea of seamless transfer – especially in occupational programming.

### **Recommendations – Transfer in Wisconsin Higher Education**

1. Actively engage and collaborate with UW institutions to articulate Madison College occupational and technical programs and create degree completion options where none exist.
2. Pursue more guaranteed transfer agreements with the UW system.
3. Cooperate on building pre-major transfer paths with UW system schools.
4. Determine the impact of system-wide associate degree level general education on transfer opportunities for technical students.
5. Build more transfer articulation relationships with private four-year colleges.

## ***Flexible Delivery and the Adult Learner***

It is widely acknowledged that the College must employ more flexible delivery methods to serve the working adult population. These methods can take many forms from online classes to accelerated classes to training offered at the workplace. Headcount in flexible learning options at Madison College has increased 46% over the last three years, while face-to-face headcount increased only 2%. The 73% FTE growth in flexible options enrollment over the last three years is even more dramatic. Flexible delivery strategies now serve 20% of the college headcount and 8% of its FTE.

These flexible options are most important to adult students. Access to higher education is increased dramatically when adult students (25 years and older) are offered flexible learning opportunities convenient to their work and personal lives. As the College creates more and more flexible alternatives to serve adult learners, it needs to create concurrent student support systems.

### **Recommendations – Flexible Delivery and the Adult Learner**

1. Create a comprehensive plan that will guide the growth of flexible delivery options including an analysis of District need, quality guidelines, data based assessments and future planning for new flexible learning methods.
2. Immediately create and staff a comprehensive plan to support students enrolled in flexible delivery programming, particularly students enrolled in online courses and accelerated courses.
3. Develop a plan for a comprehensive testing center that accommodates the need for proctored examinations in online courses.
4. Market flexible delivery options in a manner that makes it easy for adult learners to identify the character, location, and duration of the options.
5. Design offering times and schedules based on student needs. Determine a method to track scheduling changes that create flexibility for students and create incentives to promote scheduling alternatives.
6. Consider additional Madison College locations to offer face-to-face learning closer to work or home for working adult learners.

## **Industry and Occupational Trends**

Health Care, Education, Government, Retail, Manufacturing, Hospitality and Agriculture are the top industries by employment in the Madison College District. Employment in each industry varies by geographic location in the District. Dane County features the strongest growth in the highest paying positions. The areas of the District farthest from Madison see most growth in lower paid service positions – with the exception of manufacturing and construction related jobs. Projections are for healthy growth in jobs throughout the District and the State in almost all industries and occupations.

Occupational growth is fastest in service and retail areas, but also includes customer service representatives, nurses, child care workers, administrative assistants and office support, sales representatives, managers, construction related workers, health care workers, teacher assistants, computer systems workers, agricultural workers, and automotive technicians. All occupational areas will see job growth in the Madison College District in the next five to seven years. A looming labor shortage in Wisconsin may make it even more difficult to find workers in any field. At least 29% of the workers in more rural counties in the District are self-employed.

Emerging industries in the District include Biotechnology, Bio-Industry and Renewable Energy, Nanotechnology Applications, and Organic Farming. Notable existing industries include Health Care, Manufacturing (especially advanced manufacturing), Agriculture, Construction, Educational Services, Insurance and Financial Services, and Leisure, Hospitality and Travel/Tourism.

## Recommendations – Industry and Occupational Trends

1. Continue to expand health care education to meet market need. The expansion can begin with additional nursing assistant and medical assistant training at all campus locations.
2. Create short- and long-term plans to increase graduates in all nursing and allied health programs.
3. Address the considerable facilities challenges presented by increased enrollment in health care programs.
4. Expand agricultural-related programming by focusing on organic and sustainable agriculture and renewable and non-petroleum energy production. Consider other programming options in agriculture.
5. Capitalize on the College's growing expertise in renewable energy and bio-fuels by offering occupational training in these areas and creating inter-disciplinary offerings in related technical programs.
6. Design and offer career pathways for laboratory sciences technicians.
7. Expand laboratory science technician training to meet anticipated needs in Bio-related industries, such as post-Baccalaureate programs in biotechnology and electron microscopy, bioinformatics, stem cell technologies, and bio-manufacturing.
8. Determine space, location, and facilities needs related to expansion in agricultural programming, renewable energy, and laboratory science technician training.
9. Integrate instruction in nanotechnology into appropriate program areas.
10. Re-focus manufacturing related programming towards advanced manufacturing and determine how to make that programming available at all regional campus sites.
11. Address space and facilities challenges related to expanding training options in manufacturing-related programs.
12. Create a manufacturing education and training facility in collaboration with business and industry and the UW system and staff it with a "solutions team" of interdisciplinary faculty members.
13. Expand all construction-related programs, including construction-related apprenticeships, where possible.
14. Address the serious facilities and space challenges presented by expanding construction programs.
15. Create new programming in teacher education preparation. Consider creating teaching assistant programming.
16. Analyze the changing skill requirements for administrative assistants and office support workers and create modular career pathways programming to meet immediate and long-term market needs.
17. Determine the most effective ways to support the tourism industry with educational programming.
18. Create programming that effectively prepares workers for careers in finance and insurance.
19. Examine business-related offerings to fashion new training alternatives for customer service representatives and salespersons.
20. Create entrepreneurial education programming and make it available district-wide.
21. Use customized training in new and emerging occupational/technical areas to lay the foundation for programming in those areas.
22. Plan carefully for the faculty and staff needs presented by offering the recommended new programming.

# Program Area Analysis and Recommendations

## ***Overview of Enrollment Trends by Program Area***

The enrollment and FTE of 20 distinct program areas are compared over a four-year time period. Analysis shows that ACE and Safety Education lost the most headcount over this time period. Education also lost significant headcount. Headcounts experienced double digit percentage growth in Agriculture, Applied Arts, Applied Engineering, Health Occupations, Construction, Human Services, and Transportation. FTE losses were largest in Manufacturing despite headcount increases in the period. Education and Safety also lost significant FTE. FTE gains were seen in Agriculture and Natural Resources, Health Occupations, Applied Arts, Applied Engineering, Arts & Sciences, Human Services, and Transportation. Huge percentage FTE gains were made in Construction.

The ACE and Community Services areas serve nearly 30% of the headcount at Madison College. Arts & Sciences is next largest followed by the College Preparedness and Academic Advancement (CPAA) group, the Business and Information Technology group, Safety Education, Health, and the Accounting, Finance, Business, and Marketing area. These areas together serve nearly 90% of the Madison College headcount. The most significant change in relative headcount percentages (that is program area headcount relative to total college headcount) from 2003-04 to 2006-07 was in Safety Education which dropped two places in rank and in Construction which raised two places. Madison College is serving proportionately more students in Business and Information Technology, College Preparedness and Advancement, Construction, and Nursing and Health Related Occupations than it did in 2003-2004.

Arts & Sciences dominates FTE with about 43% of all college FTE. The next highest FTE service is in the Accounting, Finance, Business, and Marketing group who serve about 10% of the College FTE, closely followed by Health, Business and Information Technologies, CPAAC, Applied Arts, and ACE. These top 7 areas serve over 80% of the College FTE. Agriculture, Education, Manufacturing, and Safety Education all lost rank in FTE over the time period while Construction, Human Services, and Transportation moved up in the relative rankings.

## ***Program Area Summaries and Recommendations***

### Program Area: Accounting, Finance, Business, Marketing

Several of the themes that run through this Academic Plan revolve around expertise found in this program area. Themes such as entrepreneurship, cross-disciplinary studies, global business, lean manufacturing processes, and business outreach all relate to the work of this area. It is expected that this area will grow its offerings in Entrepreneurship and develop offerings in introductory business to support other programs. This program group already leads the College in accelerated learning options. An enhanced focus on short-term skill-building sets of offerings as well as a growing emphasis on accelerated offerings will contribute mightily to the College need to serve a growing adult working population. Enrollments should continue to increase substantially here.

### Program Area: Agriculture & Natural Resources

Agriculture is one of the most important economic drivers in the Madison College District. The College, however, has few offerings in the field. The Veterinary Technician program is the only accredited program in the State and its enrollments dominate this segment. The Department of Labor laboratory sciences grants and the new WIRED initiative to build a program in Sustainable and Entrepreneurial Agriculture will help increase the College outreach here. The Madison College leadership role in renewable energy education should also enhance an important evolving industry. More thought should be given to other offerings – especially those short-term offerings (credit and non-credit) in selected emerging agriculture related topics. The College's agriculture offerings should serve more than .8% of the College headcount.

### Program Area: Applied Arts

This program area shows steady growth in both headcount and FTE. Madison College enjoys an excellent reputation for quality in the Applied Arts and already serves a strong number of students with other degrees or seeking a career change. Additionally, the transfer art courses provide a cost effective student focused path to the University system. The recommendation is to do more of the same. Design plays a key role in quality of life in the District and quality of life in turn leads to economic development and growth. This program area is well positioned to reach out even more to working professionals with cutting-edge skill upgrades. It is also a prime candidate for inter-disciplinary offerings with Business and Information Technology.

### Program Area: Applied Engineering

All of these programs lead to what can be considered “gold collar” jobs. Another program area with an outstanding reputation, several programs have started significant work on Career Pathways with articulations to various baccalaureate degree options. These programs could begin to take the next steps in building career pathways. If the curriculum in any of these disciplines can be broken into modules that lead to recognized skill sets, those shorter offerings that will eventually lead to a degree may be more accommodating to a working adult who seeks a career boost. Additionally, these programs may wish to consider articulation or dual credit arrangements with interested District high schools to build career paths starting in secondary schools. Finally, it may be worth investigating the type of academic bridge that would have to be built to serve adults entering this programming after a significant break from school.

### Program Area: Arts & Sciences

The largest area in terms of student enrollment at the College has a critical role to play in helping to develop both knowledge workers and career pathways. The Core Abilities employers look for in employees have direct connections to general education and the easy transferability of liberal arts courses builds academic bridges to baccalaureate degree options. It is important to make certain the college transfer courses are available to support the career pathways students will follow at Madison College. Further, this unit will play a critical role in the new WTCS transition courses (called General College.) These developmental offerings as well as outreach like the Writing Center and proposed Mathematics Center build bridges from developmental education to college level academic work. That transition can have a profound affect on a student’s future economic well-being. This area will also serve to prepare more and more students to enter four-year programs with pre-majors and other transitions smoothing offerings leading to greater student transfer success. Arts & Sciences will also play an important role in international education options and world language offerings. Continued enrollment growth should be expected here.

### Program Area: Business & Information Technology

Both Business Technology and Information Technology enrollments should increase in the coming years. Business Technology serves one of fastest growing occupational areas of office support, administrative assistant, medical support, reporting services, and other business support services. The low number of average credits for this program area is reflective of the short-term programming students in this area require. The challenge is to build career pathways by putting these short-term options together, while at the same time meeting the need for skilled workers in business support. Information Technology is poised to grow enrollments again. This area is at once in the heart of the “gold collar” job growth and at risk of continued outsourcing. Building knowledge workers is crucial for employers and employees in both Business Technology and Information Technology.

### Program Area: College Preparedness & Academic Advancement (CPAA)

There is no more crucial area to serve the Madison College future population than CPAA. From building the most basic skills for economic survival to offering transitional programming to highly paid and highly skilled technical and health programs at Madison College, this unit is asked to do a great deal of the important work at the College. It is expected that this program area’s headcount and FTE will continue to grow as a percentage of the College-wide total. The focus on student transitions from basic education to college level programming will affect the operations of this program area. The continuing increase in the number of international immigrants to the Madison College district should cause a significant increase in ELL offerings. Finally, the growing number of disabled students attending Madison College points to the need for a comprehensive plan to meet their needs.

### Program Area: Construction

This fast growing program area should expect even more dramatic growth in the future. The need for workers related to construction is considered a top priority for economic development in the Madison College District. As the older workers retire and construction needs continue to grow, there will be a labor shortage of skilled workers who can design, construct, and repair the District infrastructure. Additionally, the changing technologies in the workplace have increased the need for incumbent worker training in Construction areas.

### Program Area: Education

Early Childhood Education is the only formal education offering at Madison College. The need for specialists in early childhood has been demonstrated time and again to be a social good, and this Plan also demonstrates the growing need for workers in childcare and social assistance occupations. The College should consider offering other education related offerings. Education is the second largest industry by employment in the Madison College District, yet less than one percent of our students are enrolled in the subject area. There is a great deal of childcare and some early childhood education being offered through ACE that is not reflected in this data. Enrollment in education related programming should increase at Madison College.

### Program Area: Hospitality

Leisure, Hospitality, Culinary and Personal Services are big business in the Madison College District. As the population ages, the demand for personal services increases, and the expectation of employees is that they be multi-skilled. The Madison College Culinary and Baking/Pastry Arts programs serve an ever increasing number of students returning to college to build a skill or fulfill a lifelong dream. Recreation and Facilities managers are in demand throughout the District. Every data element about industries and occupations supports the prediction of healthy continued growth in these industries.

### Program Area: Human Services

Social Assistance workers are expected to be the second highest growth occupation in Dane County and the first in the rural counties. This program addresses a portion of that need. As the District population changes, the need for human services workers that reflect that population changes with it. This is an excellent area for Career Pathways work as increasingly high credentials are needed for advancement. New certification requirements may create a need for incumbent worker training.

### Program Area: Laboratory Sciences (Biotechnology & Electron Microscopy)

The "bio-economy is one of the most important emerging economic drivers in the District. Madison College already has internationally recognized laboratory programs in biotechnology/bioinformatics and electron microscopy. The offerings provided by these departments should be expanded and strengthened to continue to meet the rapidly growing needs of the region's biology and related industries. Workforce development grants have already been secured to finance a major expansion of training for laboratory technicians in various steps on a career pathway. The post-baccalaureate pathway seems a good fit for both of these offerings. The College also needs some version of a general laboratory science pathway – perhaps with different specialty options.

### Program Area: Manufacturing

Manufacturing is a crucial piece of the employment and economic development infrastructure in the District. The question is not whether Madison College should have offerings in manufacturing; it is what should those offerings be? More and more outsourcing, technological automation, and the need to operate in a lean environment changed the nature of manufacturing work. Advanced manufacturing training stresses the need for workers with problem-solving and critical thinking skills. The new and changing technologies increase the need for workers to maintain the equipment. The emphasis on process improvement and statistical control demand workers with more sophisticated knowledge of mathematical tools. All of these changes conspire to suggest changes in this area that reflect the changing manufacturing environment. Incumbent workers need training; manufacturers need trainers and facilities to train and experiment with product innovations. Madison College could develop some significant partnerships in this important program area.

### Program Area: Nursing & Health-Related

The Health area is projected to have the greatest need for employment in the foreseeable future. Almost every program area Madison College offers should see growth. In order to meet these needs clear career pathways need to be laid so workers can simultaneously work and prepare for advancement into the next level of medical profession. Excellent starts have already been made here in Nursing related programming. Additionally the demographic changes dictate that older workers will need to be recruited to fill needs in some key areas. Alternative scheduling and delivery will help meet that need.

### Program Area: Protective Services & EMS

Emergency Preparedness training has become the duty of the nation's community and technical colleges. This program area needs to take the lead in driving this programming across the College. Continuing needs to increase the numbers of protective service personnel and emergency medical technicians will drive enrollment growth in this program area. Serious issues with existing facilities are holding back even more growth in training for emergency preparedness and protective services.

### Program Area: Safety Education

The enrollment in this area is largely dictated by state laws and the judicial system. Most of the offerings are court-ordered or are required by law. This area serves many District residents with very little staff and a dedicated faculty. The College needs to give more thought to how to continually improve the access to important offerings in this area throughout the District.

### Program Area: Transportation

The Transportation area is in the midst of some fundamental changes in technology and in expectations of its workforce. Steady gains in enrollment demonstrate the growing demand for workers in this area. The changing technology in motor vehicles provides challenges for incumbent worker training, faculty professional development, and facilities and equipment housing. There are shortages of workers in the field now and these shortages will grow over time – especially in more rural areas. Transportation, renewable energy, electronics, and business are prime candidates for inter-disciplinary offerings. Continued enrollment growth should be expected.

### Program Area: Adult Continuing Education (ACE)

This program area represents not only ACE but all types of continuing education (low credit offerings) and community services (no state aids) offerings. The primary units that offer these classes are ACE and BICS. Headcount continues to shrink, but has not changed much as a relative percentage of headcount served at the College. This area continues to make meaningful contributions to the FTE at the College in spite of declining enrollments. Recommendations are for a closer alignment of offerings between ACE and BICS.

### Program Area: Business, Industry, and Community Services (BICS)

BICS provides educational services directly to business and industry using a customized, just-in-time training approach. Additionally, BICS is the College leader in workforce development initiatives. That combination of services makes BICS a vital part of the work of the College. BICS depends on the support and collaboration of all the other Learner Success units at the College to complete its mission. This unit has played a leadership role in Madison College's design and implementation of career pathways. The College needs to take the next step in this progression – that is to truly integrate the career pathways work BICS is doing and the customized training work it does day to day with the work of the rest of Learner Success.

### Program Area: Learner Development

Support for students aiming to achieve their educational goals is an essential element that provides the foundation for all Madison College academic programming and services. The Madison College Learner Success services plans provide for orientations, advising, assessment, and placement, career services, tutoring, academic support, and other specialized student support systems. Student Life guides students' educational growth, providing them with opportunities to apply what they've learned in the classroom or challenging them to explore new possibilities through participation in student clubs, newspapers, the Phi Theta Kappa Honor Society, Student Senate, and many other experiences that promote leadership and a sense of College community. Athletics plays a key role in offering learning experiences that complement academic studies. The emphasis in this area is on flexibility in services and programming, creating safe accessible and welcoming learning environments, creating a meaningful college experience for students, and creating health and wellness support to enhance student success.