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## ABSTRACT

Developed in response to the need for a revision of the institutional mission statement and objectives of Western Iowa Tech Community College (WITCC) in order to respond to the changing student population, external economic factors, and local community needs, this report reviews economic and legislative issues affecting the college, describes activities of the various departmental units to address specific need areas, and presents recommendations. The introductory section identifies the following four challenges which the college must meet in the coming century: (1) establishing a comprehensive arts and sciences program; (2) maintaining a current vocational-technical curriculum; (3) developing a systematic approach to resource development; and (4) devoting more attention to appropriate student services. The next section examines economic and employment conditions of the Siouxland community, reviewing workforce trends, career placement of community college graduates, and community economic development projects. Next, the report reviews statewide policy issues affecting WITCC. The following six sections present summaries of recent planning efforts and activities at WITCC in the areas of occupational and career education; community and continuing education; arts and sciences; resource development; student services; and efforts addressing collegewide concerns. The final section presents a series of 20 recommendations suggesting, for example, that the Arts and Sciences unit be given Instructional Division status; advising and counseling services be expanded; and credit and non-credit courses be articulated throughout the college curriculum. (PAA)

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**APPROACHING A COMPREHENSIVE INSTITUTIONAL PLAN FOR  
WESTERN IOWA TECH COMMUNITY COLLEGE:  
PHASE II: CREATING A NEW VISION**

By

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with

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## FOREWORD

**"Business as Usual = Death"**  
- Dr. Robert Dunker  
Executive Vice President  
Western Iowa Tech Community College

This statement by Dr. Robert Dunker became the rallying cry as this project developed. The faculty and staff of Western Iowa Tech Community College (WITCC) became clear about the challenges confronting them today and recognized that a failure to deal with them would severely cripple the ability of the college to survive in the future. Conversely, effectively addressing them opened new options and possibilities that could strengthen the college and enrich the community almost without limit. The people of WITCC realized they had a choice; and that the only way to progress was to meet and positively embrace those challenges. This report is something of a chronicle of this effort over the past year.

We say "something" because no written report can do justice to the depth of transformation that took place. The mode of engagement was experiential, not lending itself very well to the printed page. In its course, the focus of the project shifted from a rather standard planning effort where the "experts" come in to tell the college what should be done to an effort that emphasizes the empowerment of the staff to determine what and how things should be done, seizing their own futures. The "experts" became "facilitators."

As such, the careful reader will note several interesting features of this report. First, the work done early in the project is data, chart, and graph intensive. The later work emphasizes the ideas, points of view, and plans of staff themselves. While it certainly makes production of a report somewhat difficult, it fairly represents what occurred during the year.

Another feature is that the project team waxes rather enthusiastically at times about how much progress was made in the project. This is no attempt to draw attention to its own work. Rather, it is a sincere acknowledgment of the work of the staff and WITCC and the degree to which it took the opportunity and made full use of it. It was moving and important to the professional consultants participating as much as the staff seemed to enjoy it. We sincerely appreciate the opportunity.

In any project, there are too many people to thank than space permits. Certainly, the first acknowledgement must go to the college faculty and staff. Without their willingness to contribute, no project could have taken place. I would also wish to give special thanks to Dr. Robert Dunker, who provided leadership to the project team and became aware very early into the project as to what its best application would be. He was certainly correct.

On our side of the project team, I want to thank my colleagues and friends Dr. Harold Starr; Dr. Judith Edwards; and Ms. Abbejean Kehler. They are certainly reliable companions on the sometimes rocky slopes of educational innovation. In addition, I want to acknowledge the contribution of Ms. Monyeene Elliott, who coordinated the logistics of both the project team and the production of this document. It is ironic, one supposes that the Phase I WITCC report was one of the first things Ms. Elliott did directly for me. This report, due to changing roles and responsibilities, represents one of the last things. I want to warmly thank Monyeene for the beginning, the end, and everything in between.

Finally, we want to cite the contribution of Dr. Robert Kiser, President and Founder of Western Iowa Tech Community College. Dr. Kiser started the college, built it to prominence, and made it a positive force in both the community and the community college movement as a whole. Dr. Kiser made the past 25 or so years possible and provided the vision for growth, progress, and excellence for the next quarter century. This project is dedicated to Dr. Kiser on the eve of his retirement. We wish him the very best.

Gary M. Grossman  
Project Director

# INTRODUCTION

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## INTRODUCTION TO THE PROJECT

One of the most difficult tasks facing any organization interested in determining its future, including institutions of learning, is to confront a significant change in its scope of activity. Typically, an organization seeks change out of some sense of need, a response to changing conditions. But how does one know whether any given approach is the "right" one? Further, how does one measure success, given the changing environment? The standards themselves have almost certainly changed.

This analysis is particularly appropriate in education. With an increased emphasis demanded, both internally and externally, on institutional program accountability, the tradition of courses and educational programs as end "products" in themselves may no longer be a useful consideration. Rather, other criteria may need to be considered, such as student achievement and the appropriateness of the curriculum for the community it serves.

Indeed, the community itself must be drawn into the vision of the educational enterprise itself. Thus, with respect to the interface between a college and the larger community, student achievement can principally be interpreted in terms of providing relevant and useful employment preparedness to the student "product." Educational institutions must be aware and responsive to their markets. Indeed, community and technical colleges must be among the most market-sensitive of any educational environments because communities look to them first to address emerging local needs. The community college must not merely **respond** to needs, however. It must **lead** it as well. This challenge compounds the task of effectively addressing the future for this dynamic element of the educational equation.

Achieving these ends is not easy. To do so requires that the nature and composition of educational programs be flexible and of high quality in order to provide meaningful opportunities for the development of human capital. Investment in a college will come more and more from the community itself in the form of nontraditional students and interested allies, such as members of the business community. As the community invests, it does so with the intention of becoming a consumer of the "student product," a goal sharply at odds with the more traditional purpose of altruism and an end in itself. This investment, as any, must be aggressively sought by a college. Thus, no community college can afford to simply allow investors to find it. This approach, well institutionalized in higher education, are artifacts of a bygone day. Further, in seeking this investment, **it is important to remember that prospective investors are rational participants in the educational economy.** That is: (1) **students** will not engage in seeking additional education if they perceive that the **rewards** are not forthcoming in equal or greater value to all costs; and (2) **consumers** (i.e., the business community) will not reward institutions for an extended period that produce **poor student performance, poor quality programs, and/or irrelevant, nonproductive instruction.** From the point of view of a community college's market position today and their future, these realities are inescapable.



Fortunately, it is possible for educational agencies to review their direction and mission to ensure that they in fact provide a positive contribution to the community and maintain an appropriate leadership in educational affairs relative to other community concerns. Institutions of postsecondary education are in the business of providing education services to the community. This paper will suggest that Western Iowa Tech Community College (WITCC), through what shall be termed "cooperative co-option" and specialization through comparative advantage, can increase the choices available for students, individual teachers, administrators, and the community.

Change is necessary. In the historical circumstances of the college, it is also **highly possible**. It is at this juncture that WITCC finds itself, a position in which by making appropriate changes it may seize a dramatic and challenging opportunity for its own benefit and that of the Siouxland community. This relationship between community change in Sioux City and an improved WITCC has been noted in a number of studies, such as the recent *Sioux City Vision 2020* (Cambridge Systematics, Inc., 1991). More broadly, it has been cited concerning Iowa Community Colleges in general on several occasions in published documents (Iowa Department of Education 1991; 1990). Specific to WITCC, Grossman and Gyuro identified this prospect in an earlier version of this project (1988). Yet, while all of the studies identify the same phenomenon, the mere existence of a dynamic is not sufficient. It remains the responsibility of WITCC to forge the alliances and experience the changes it must incorporate for this mere possibility to transform into an achievable plan.

This project, conducted over the past year, is part of the college's response. It endeavors to assist in identifying the opportunity available from the challenges WITCC currently faces, and where possible, to encourage effective action through the implementation of new systems, new solutions, and most importantly, new ideas. It attempts to clarify the barriers to change and establish a consensus on the direction, mission, and purpose of the various component units of the college. Finally, it develops an internal alliance within the WITCC community to identify the path to effective change.

## **Approaching Change: Phase II**

The project emerges from work performed earlier in which five key challenges that the college must meet if it is to survive and thrive in the 21st century were identified. From the Phase I report, these five areas include:

- (1) The college needs to establish a comprehensive arts and sciences program at the earliest possible time.
- (2) The vocational-technical education curriculum must stay current with the times and changes in the Siouxland community.
- (3) A systematic approach to resource development must be created for the college to take full advantage of funding opportunities as they occur.

- (4) The changing economy and population of the area provide an imperative for WITCC to devote more attention to appropriate student services, particularly with regard to student retention.
- (5) There is a need for a more highly developed approach to serving high school students and their occupational needs.

As originally conceived, this project was principally intended to plan the implementation of previously defined approaches to these challenges. After its commencement, however, the leadership of the college determined that it would be of far greater value for solutions to emerge from the staff itself, after a review of the respective missions of their units, as well as their purposes and roles and the larger issues facing the college in the Siouxland community. In the process of project development, there emerged a heightened interest in ensuring that efforts in community and continuing education were aligned with changes in college as a whole, and vice versa. Accordingly, Issue 5 was considered as not germane at this time since the problems being addressed in the legislative process and recent data indicate that the number of prospective students from high schools in Iowa is expected to continue a precipitous decline. Accordingly, the project director and team shifted the emphasis from institutional to staff development and team-building as a necessary foundation for the identification and implementation of consensus approaches involving both the administration and staff. Indeed, the plan and other material in this document are direct results of the team-building processes themselves, rather than notions that originated by either the project staff or college administration.

This document summarizes what has been accomplished in the course of this project in each of these areas, beginning with an exploration of the economic and employment conditions of the Siouxland area. It will be followed by a discussion of the interface of the economy and educational system, both at the state and local levels. This analysis will establish the framework and context for the identification of how the college sees itself and the environment in which it must grow. It will be followed by summaries of project staff work in each of the four issue areas. Finally, recommendations will be presented that have been developed through direct input of the college staff.

# ECONOMIC AND EMPLOYMENT CONDITIONS

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## **ECONOMIC AND EMPLOYMENT CONDITIONS OF THE SIOUXLAND COMMUNITY**

Aggressive outreach activities by the business community, the geographic location of Siouxland, and a good infrastructure of highway, rail, barge, and air transportation combined with a better than adequate educational and medical base tend to provide some attractive features for the relocation of business to the area. Further, the midwestern work ethic and the large labor pool of underemployed skilled and unskilled workers constitute an environment in which many businesses may find incentives to invest.

In addition, the state of South Dakota offers a favorable climate for business relocation or expansion due to an absence of corporate income, personal income, or personal property taxes. These incentives in South Dakota create benefits for the entire Siouxland area.

Despite this, business growth to date has been slow in Siouxland. Job creation and employment itself in the area has some encouraging signs, but there are other less positive indicators. As seen in the publication, *The Source* (published by the Iowa State Occupational Information Coordinating Committee of the Iowa Department of Economic Development), occupational data relative to Iowa is presented. From these and other data sources, a number of trends can be identified. Those most relevant to WITCC will be discussed in subsequent sections of this chapter.

## WORKFORCE TRENDS

### General

Slow growth in the Siouxland area economy is principally a reflection of the adjustments in recent years throughout the midwest in response to the decline and restructuring of the auto industry and disruptions/dislocations in agriculture. These declines have led to an overall decrease in skilled, higher paid manufacturing incomes and incentives to farm, as well as a net population decrease. The same is true with regard to the decline of the meat packing industry of the area. As such, the region has been hit hard in recent times by changes in the traditional industrial base of Siouxland, seriously undermining the economic foundations of the area.

Growth in the service industries has been slow as well (see table 1) and this may be attributed to: (a) restrained population growth, (b) marginal growth in personal income, and (c) constrained expansion of business services due to shrinkage of the manufacturing base. There is an indication that the trends are reversing to some extent, particularly for the Siouxland area as a whole, which show a slow growth in population and some immigration of new population groups. This provides at least some, if limited, hope for growth in the service sector.

Housing starts are up in the past two years, and census data forecast an increase in the single, adult population, particularly minorities. Population and employment statistics will likely mirror the general trends; increases to the workforce will be derived in significant measure from minorities and women. These workers, in all likelihood, will constitute an increase of the supply of less skilled, less well-educated workers. Unless resources are targeted to address the needs these individuals have, particularly in basic skill and job retraining areas, their entry into the labor market will further depress the wage rate.

As table 1 shows, many of the occupations identified as growing numerically are doing so at only modest rates. They also represent jobs that average approximately \$7 per hour. These data do not appear to promise dramatically positive shifts in labor market conditions in the near future.

### Employment and Underemployment

Underemployment is the situation in which a worker with a particular set of skills accepts a job which under-utilizes those skills, netting the worker a lower income than she/he otherwise might expect. It appears to be a substantial problem in the Sioux City area that workers who possess better skills are unable to find an employer for those skills at wages comparable to other regions. The resulting wage rate for many employees is less than \$7 per hour, an annual income of less than \$13,500. (See inserts tables IIa and IIb, employer surveys illustrating the average wages within Woodbury and surrounding counties. Tables obtained from the Iowa Department of Employment Services.)

**TABLE I (see Table III for full listing)**  
**MAJOR OCCUPATIONAL GAINERS/LOSERS: ALL OTHERS UNDER 2 PERCENT**

| Occupational Title<br>[*=service or clerical, including medical] | Percent gain of jobs | Percent loss of jobs |
|--|----------------------|----------------------|
| Metal Fabricators, struct.                                       |                      | -4.35                |
| Structural Metal Workers   |                      | -4.26                |
| Insulation Workers   |                      | -3.85                |
| *All sales rep. and sales  | 3.85                 |                      |
| Nursing Instructors  | 3.45                 |                      |
| Underwriters   | 3.33                 |                      |
| Roofers  |                      | -3.23                |
| All other Construction   | 3.23                 |                      |
| All other precision workers                                      |                      | -3.20                |
| Millwrights  |                      | -3.12                |
| Helpers, Carpenters & related                                    |                      | -3.12                |
| Mail Machine operators, pre                                      | 3.12                 |                      |
| Excavating & Loading Machinery                                   |                      | -2.86                |
| Veterinarians/veterinary   | 2.78                 |                      |
| Photographic Processing Mac                                      | 2.83                 |                      |
| Cleaning/Pickling Equipment                                      |                      | -2.58                |
| *Lau. & Drycleaning Machine Operator                             | 2.56                 |                      |
| Farmers, exc. Horticultural                                      |                      | -2.53                |
| Extruding & forming Machinery                                    |                      | -2.44                |
| Conveyer operators & tender                                      |                      | -2.44                |
| *Physical Therapists   | 2.44                 |                      |
| *Legal Secretary   | 2.44                 |                      |
| *Dental Hygienists   | 2.38                 |                      |
| *Medical Record Technicians                                      | 2.38                 |                      |
| Brick Masons   |                      | -2.38                |
| *All other therapists  | 2.35                 |                      |
| Helpers, Brick & Stone Mason                                     |                      | -2.33                |
| *Medical/Clinical Laboratory                                     | 2.33                 |                      |
| *Social Workers  | 2.27                 |                      |
| Dietitians   | 2.27                 |                      |
| *Phys. & Corrective Therapy Asst.                                | 2.27                 |                      |
| *Food Servers, outside   | 2.25                 |                      |
| Construction Managers  |                      | -2.25                |
| Plumbers, Pipefitters  |                      | -2.24                |
| *Psychiatric Aides   | 2.22                 |                      |
| *Social Service Tech.  | 2.22                 |                      |
| Carpenters   |                      | -2.21                |
| *Maids/Housekeeping  | 2.18                 |                      |
| Lawyers  | 2.17                 |                      |
| Dentists   | 2.13                 |                      |
| Operating Engineers  |                      | -2.08                |
| First Line Supervisors, construction                             |                      | -2.04                |
| *Medical & Health Services                                       | 2.04                 |                      |
| *Insurance claim clerks  | 2.04                 |                      |
| *Medical Assistants  | 2.00                 |                      |
| *Hotel Desk Clerks   | 2.00                 |                      |
| *Nursing Aides, orderlies  | 2.00                 |                      |
| Grader, dozer, scraper operator                                  |                      | -2.00                |



# PLYMOUTH COUNTY, IOWA

TABLE II A

## EMPLOYER SURVEY

| SELECTED OCCUPATIONS                               | Employees | Average Wage | SELECTED OCCUPATIONS                     | Employees | Average Wage |
|--|-----------|--------------|--|-----------|--------------|
| Professional, Technical and Managerial Occupations |           |              | Sales Occupations                        |           |              |
| Accountant   | 7         | \$11.13      | Grocery Store Produce Department Manager | 29        | \$ 7.03      |
| Executive Officer                                  | 8         | 23.06        | Sales Clerk                              | 30        | 4.78         |
| Laboratory Tester                                  | 9         | 7.70         | Sales Representative                     | 12        | 9.17         |
| Loan Officer                                       | 17        | 14.93        | Service Occupations                      |           |              |
| Manager, Department                                | 56        | 8.71         | Cleaner (Or Housekeeper)                 | 32        | 4.18         |
| Manager, Office                                    | 15        | 8.45         | Cook, Institutional                      | 25        | 4.40         |
| Manager, Retail Store                              | 3         | 11.86        | Janitor                                  | 6         | 5.02         |
| Nurse, Licensed Practical                          | 19        | 6.38         | Kitchen Helper                           | 19        | 4.12         |
| Nurse, Registered                                  | 52        | 7.84         | Nurse Aide - Orderly                     | 126       | 4.32         |
| Production Supervisor                              | 30        | 10.07        | Washer, Machine                          | 10        | 4.20         |
| Clerical Occupations                               |           |              | Machine Trades Occupations               |           |              |
| Accounting Clerk                                   | 9         | 7.57         | Mechanic, Diesel                         | 17        | 7.63         |
| Bookkeeper   | 26        | 5.58         | Mechanic, Maintenance                    | 21        | 11.17        |
| Cashier  | 4         | 5.83         | Benchmark Occupations                    |           |              |
| Cashier-Checker                                    | 15        | 5.53         | Sewing Machine Operator                  | 99        | 4.74         |
| Clerk-Typist                                       | 15        | 4.66         | Structural Work Occupations              |           |              |
| Clerk, General Office                              | 50        | 5.17         | Building Maintenance Repairer            | 12        | 6.02         |
| Computer Operator                                  | 11        | 5.73         | Construction Worker                      | 79        | 7.65         |
| Receptionist                                       | 17        | 5.08         | Electrician                              | 31        | 11.66        |
| Secretary  | 37        | 5.72         | Heavy Equipment Operator                 | 8         | 5.83         |
| Secretary Medical                                  | 6         | 5.90         | Miscellaneous Occupations                |           |              |
| Shipping and Receiving Clerk                       | 4         | 7.04         | Material Handler                         | 9         | 6.97         |
| Teller   | 25        | 5.28         | Truck Driver, Heavy                      | 20        | 6.50         |

# MONONA COUNTY, IOWA

## EMPLOYER SURVEY

| SELECTED OCCUPATIONS                               | Employees | Average Wage | SELECTED OCCUPATIONS          | Employees | Average Wage |
|--|-----------|--------------|-------------------------------|-----------|--------------|
| Professional, Technical and Managerial Occupations |           |              | Service Occupations           |           |              |
| Department Manager                                 | 24        | \$11.05      | Cleaner (Housekeeper)         | 24        | \$5.00       |
| Executive Officer                                  | 6         | 19.58        | Cook, Institutional           | 24        | 5.30         |
| Loan Officer                                       | 15        | 13.77        | Janitor                       | 19        | 5.35         |
| Manager, Office                                    | 12        | 8.17         | Kitchen Helper                | 26        | 4.20         |
| Manager, Parts                                     | 3         | 9.25         | Nurse Aide/Orderly            | 138       | 4.74         |
| Nurse, Licensed Practical                          | 22        | 7.85         | Short-Order Cook              | 7         | 6.07         |
| Nurse, Registered                                  | 59        | 10.88        | Washer, Machine               | 14        | 4.90         |
| Production Supervisor                              | 9         | 9.73         | Machine Trades Occupations    |           |              |
| Clerical Occupations                               |           |              | Mechanic, Automobile          | 10        | 7.16         |
| Accounting Clerk                                   | 5         | 6.95         | Mechanic, Diesel              | 19        | 7.91         |
| Bookkeeper   | 18        | 6.59         | Mechanic, Maintenance         | 5         | 6.58         |
| Cashier  | 3         | 4.33         | Structural Work Occupations   |           |              |
| Cashier-Checker                                    | 13        | 3.99         | Building Maintenance Repairer | 8         | 6.75         |
| Clerk, General Office                              | 31        | 5.71         | Carpenter                     | 6         | 7.93         |
| Computer Operator                                  | 14        | 5.57         | Construction Worker           | 19        | 7.16         |
| Receptionist                                       | 5         | 5.73         | Heavy Equipment Operator      | 28        | 8.06         |
| Secretary  | 8         | 5.88         | Miscellaneous Occupations     |           |              |
| Shipping and Receiving Clerk                       | 4         | 5.48         | Material Handler              | 24        | 5.44         |
| Teller   | 16        | 5.94         | Tractor-Trailer Truck Driver  | 67        | 10.96        |
| Sales Occupations                                  |           |              | Truck Driver, Heavy           | 6         | 6.00         |
| Manager, Dept. (Retail Store)                      | 5         | 4.74         |                               |           |              |
| Sales Clerk  | 35        | 4.45         |                               |           |              |
| Sales Representative                               | 16        | 9.64         |                               |           |              |



# WOODBURY COUNTY, IOWA

TABLE II B

## EMPLOYER SURVEY

| SELECTED OCCUPATIONS                               | Employees | Average Wage |
|--|-----------|--------------|
| Professional, Technical and Managerial Occupations |           |              |
| Accountant   | 28        | \$10.95      |
| Administrative Secretary                           | 29        | 8.88         |
| Computer Programmer                                | 14        | 11.66        |
| Executive Officer                                  | 41        | 20.98        |
| Manager, Office                                    | 52        | 13.81        |
| Manager, Retail Store                              | 21        | 10.34        |
| Medical Technologist                               | 47        | 10.20        |
| Production Supervisor                              | 35        | 13.81        |
| Social Worker                                      | 43        | 7.73         |
| Technician, X-ray (Radiologist)                    | 30        | 10.22        |
| Clerical Occupations                               |           |              |
| Accounting Clerk                                   | 77        | 7.59         |
| Bookkeeper   | 107       | 7.61         |
| Cashier-Checker                                    | 45        | 4.09         |
| Clerk-Typist                                       | 65        | 5.83         |
| Clerk, General Office                              | 160       | 5.50         |
| Receptionist                                       | 45        | 5.30         |
| Secretary  | 129       | 6.45         |
| Secretary, Medical                                 | 40        | 5.95         |
| Shipping and Receiving Clerk                       | 40        | 6.90         |
| Teller   | 44        | 4.67         |
| Sales Occupations                                  |           |              |
| Route Driver                                       | 31        | 4.31         |
| Sales Representative                               | 64        | 10.83        |
| Salesperson  | 196       | 5.54         |

| SELECTED OCCUPATIONS          | Employees | Average Wage |
|-------------------------------|-----------|--------------|
| Service Occupations           |           |              |
| Cleaner (Or Housekeeper)      | 128       | \$ 4.83      |
| Cook, Institutional           | 52        | 4.87         |
| Janitor                       | 72        | 5.66         |
| Kitchen Helper                | 59        | 3.77         |
| Nurse Aide/Orderly            | 164       | 4.49         |
| Washer/Watress                | 114       | 3.19         |
| Processing Occupations        |           |              |
| General Laborer               | 82        | 5.44         |
| Machine Trades Occupations    |           |              |
| Mechanic, Automobile          | 49        | 8.21         |
| Mechanic, Diesel              | 44        | 8.27         |
| Mechanic, Maintenance         | 41        | 9.54         |
| Production Machine Operator   | 113       | 8.89         |
| Benchwork Occupations         |           |              |
| Assembler, Production         | 32        | 6.79         |
| Structural Work Occupations   |           |              |
| Building Maintenance Repairer | 8         | 7.26         |
| Supervisor, Maintenance       | 14        | 11.85        |
| Miscellaneous Occupations     |           |              |
| Material Handler              | 41        | 7.81         |
| Order Filler                  | 29        | 7.59         |
| Tractor Trailer Truck Driver  | 30        | 7.20         |
| Truck Driver Light            | 28        | 6.28         |

# CHEROKEE COUNTY, IOWA

## EMPLOYER SURVEY

| SELECTED OCCUPATIONS                               | Employees | Average Wage |
|--|-----------|--------------|
| Professional, Technical and Managerial Occupations |           |              |
| Accountant   | 3         | \$12.67      |
| Department Manager                                 | 113       | 13.31        |
| Executive Officer                                  | 27        | 24.98        |
| Illustrator  | 22        | 8.01         |
| Laboratory Tester                                  | 37        | 9.63         |
| Loan Officer                                       | 20        | 15.21        |
| Manager, Office                                    | 19        | 11.98        |
| Manager, Parts                                     | 3         | 9.47         |
| Nurse, Licensed Practical                          | 32        | 7.81         |
| Nurse, Registered                                  | 15        | 9.82         |
| Production Supervisor                              | 8         | 10.92        |
| Clerical Occupations                               |           |              |
| Accounting Clerk                                   | 9         | 5.31         |
| Bookkeeper   | 28        | 7.28         |
| Clerk-Typist                                       | 6         | 5.09         |
| Clerk, General Office                              | 82        | 6.86         |
| Computer Operator                                  | 3         | 8.42         |
| Receptionist                                       | 3         | 6.17         |
| Secretary  | 14        | 7.60         |
| Shipping and Receiving Clerk                       | 3         | 6.10         |
| Teller   | 23        | 6.28         |
| Sales Occupations                                  |           |              |
| Sales Clerk, Food                                  | 6         | 10.58        |
| Sales Representative                               | 44        | 10.96        |
| Service Occupations                                |           |              |
| Cleaner (Or Housekeeper)                           | 26        | 4.61         |
| Cook, Institutional                                | 36        | 5.18         |

| SELECTED OCCUPATIONS            | Employees | Average Wage |
|---------------------------------|-----------|--------------|
| Service Occupations (continued) |           |              |
| Janitor                         | 8         | \$ 5.93      |
| Kitchen Helper                  | 22        | 4.72         |
| Nurse Aide/Orderly              | 70        | 4.26         |
| Washer, Machine                 | 9         | 5.01         |
| Processing Occupations          |           |              |
| Feed Grinder                    | 19        | 6.15         |
| General Laborer                 | 431       | 8.87         |
| Machine Trades Occupations      |           |              |
| Machinist                       | 3         | 7.50         |
| Mechanic, Automobile            | 19        | 8.52         |
| Mechanic, Diesel                | 10        | 7.15         |
| Mechanic, Maintenance           | 55        | 10.50        |
| Production Machine Operator     | 289       | 7.68         |
| Benchwork Occupations           |           |              |
| Assembler, Production           | 147       | 6.65         |
| Painter, Spray                  | 27        | 6.58         |
| Structural Work Occupations     |           |              |
| Building Maintenance Repairer   | 6         | 6.85         |
| Carpenter                       | 9         | 6.92         |
| Welder, Combination             | 9         | 7.60         |
| Miscellaneous Occupations       |           |              |
| Auto-Service Station Attendant  | 6         | 6.47         |
| Industrial Truck Driver         | 56        | 11.80        |
| Material Handler                | 32        | 7.48         |
| Truck Driver, Heavy             | 55        | 9.80         |

Since the level of personal income is a determinant of the demand for housing and other services, the demand for and resultant market price of these items is relatively low. However, the pool of skilled, underemployed workers can potentially provide an attractive inducement to business relocation.

Without an increase in payrolls, the economic forecast remains fairly stable. It is the hope of the business community that business and Chamber of Commerce initiatives can improve those prospects. If additional businesses are enticed into the area, some of the underemployment problems will subside and more people will be attracted to the area.

Table III includes a list of occupations in the WITCC area as well as total openings and projected growth or decline through 1991. The listing is set in descending order as to average annual number of openings and the resultant percentages.

### **Career Placement**

The major employers of WITCC graduates, according to the college's information, includes: St. Lukes, Marion, IBP, Pioneer Telemarketing, Gateway 2000, Prince Manufacturing, First Federal Savings Loan, First National Bank, Motorola, and Ford. Another item of note includes the observation identified through discussions with staff that many women enrolled in nontraditional training programs tend to be ultimately employed in jobs outside of that training area upon graduation. This could be, of course, a comment both upon the relative appropriateness of instructional programs and the nature of the local labor market. While support for this assertion is anecdotal and not the result of a thorough analysis of data, it is also interesting that a more complete database with which to dispute this finding is not available, either in the community or at the college. Insofar as available evidence seems to suggest this, however, career counselors at WITCC should aggressively be seeking this type of information in order to better serve students. Training students for jobs unavailable to them is a serious problem for both the student and institution, and ultimately, the community. Nothing will "sell" the development of the institution as much as demonstrable success. Certainly, resources should be allocated for documenting matters of this importance.

In addition to "natural" labor market processes, Siouland has several community economic development programs underway. These will be reviewed and project staff will comment upon them.

In the data collection process, a number of sources of information were obtained. Project staff interviewed a number of persons locally and at the state level to obtain data pertinent to this section of the report. A list of interviewees is found in exhibit 1. Exhibit 2 lists major employers in Siouland as of October 1989.

TABLE III

LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| DES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 49011261 | SALESPERSONS, RETAIL         | 2315                  | 2352                  | 9                               | 144                               | 153                             | 0.39 2                               |           |
| 67005376 | JANITORS AND CLEANERS        | 1280                  | 1344                  | 16                              | 111                               | 127                             | 1.25 2                               |           |
| 90000473 | FARMERS, ETC HORTICULTURAL   | 5365                  | 4819                  | -136                            | 256                               | 120                             | -2.53 2                              |           |
| 19005016 | GENERAL MANAGERS AND TOP EXE | 2292                  | 2337                  | 11                              | 95                                | 106                             | 0.48 2                               |           |
| 90000479 | FARM WORKERS                 | 2031                  | 2084                  | 13                              | 86                                | 99                              | 0.64 2                               |           |
| 66008401 | NURSING AIDES, ORDERLIES, AN | 1302                  | 1405                  | 26                              | 60                                | 86                              | 2.00 2                               |           |
| 55338305 | BOOKKEEPING, ACCOUNTING, AND | 1376                  | 1407                  | 8                               | 67                                | 75                              | 0.58 2                               |           |
| 32502160 | REGISTERED NURSES            | 1679                  | 1801                  | 30                              | 43                                | 73                              | 1.79 2                               |           |
| 55347357 | GENERAL OFFICE CLERKS        | 1335                  | 1373                  | 10                              | 60                                | 70                              | 0.75 2                               |           |
| 49021263 | STOCK CLERKS, SALES FLOOR    | 1052                  | 1068                  | 4                               | 57                                | 61                              | 0.38 2                               |           |
| 65038390 | FOOD PREPARATION WORKERS     | 834                   | 871                   | 9                               | 48                                | 57                              | 1.08 2                               |           |
| 49023254 | CASHIERS                     | 1803                  | 1844                  | 10                              | 46                                | 56                              | 0.55 2                               |           |
| 55199345 | ALL OTHER SECRETARIES        | 1464                  | 1509                  | 11                              | 40                                | 51                              | 0.75 2                               |           |
| 67002377 | MAIDS AND HOUSEKEEPING CLEAN | 458                   | 498                   | 10                              | 38                                | 48                              | 2.18 2                               |           |
| 97102843 | TRUCK DRIVERS, HEAVY OR TRAC | 1556                  | 1529                  | -7                              | 49                                | 42                              | -0.45 2                              |           |
| 65008392 | WAITERS AND WAITRESSES       | 1470                  | 1512                  | 10                              | 30                                | 40                              | 0.68 2                               |           |
| 65028383 | COOKS, INSTITUTION OR CAFETE | 508                   | 537                   | 7                               | 32                                | 39                              | 1.38 2                               |           |
| 31305114 | TEACHERS, ELEMENTARY         | 948                   | 964                   | 9                               | 29                                | 38                              | 0.95 2                               |           |
| 63047453 | GUARDS                       | 279                   | 296                   | 4                               | 29                                | 33                              | 1.43 2                               |           |
| 31308117 | TEACHERS, SECONDARY SCHDOL   | 1038                  | 1078                  | 10                              | 22                                | 32                              | 0.96 2                               |           |
| 65032387 | COOKS, SPECIALTY FAST FOOD   | 460                   | 468                   | 2                               | 29                                | 31                              | 0.43 2                               |           |
| 55305310 | RECEPTIONISTS AND INFORMATIO | 451                   | 481                   | 8                               | 22                                | 30                              | 1.77 2                               |           |
| 49008269 | OTHER SALES REPRESENTATIVES, | 710                   | 711                   | 0                               | 30                                | 30                              | 0.00 2                               |           |
| 92717748 | SEWING MACHINE OPEFATORS, GA | 560                   | 558                   | 0                               | 30                                | 30                              | 0.00 2                               |           |
| 65041389 | FOOD PREPARATION AND SERVICE | 685                   | 700                   | 4                               | 23                                | 27                              | 0.58 2                               |           |
| 61008457 | HOUSEKEEPERS, INSTITUTIONAL  | 119                   | 127                   | 2                               | 25                                | 27                              | 1.68 2                               |           |
| 51002369 | FIRST LINE SUPERVISORS AND M | 689                   | 705                   | 4                               | 22                                | 26                              | 0.58 2                               |           |
| 79014474 | GARDENERS AND GROUNDSKEEPERS | 190                   | 202                   | 3                               | 22                                | 25                              | 1.58 2                               |           |
| 98999907 | ALL OTH. HELPERS, LABOR., AN | 1089                  | 1080                  | -2                              | 27                                | 25                              | -0.18 2                              |           |
| 65026384 | COOKS, RESTAURANT            | 364                   | 374                   | 2                               | 23                                | 25                              | 0.55 2                               |           |
| 65005381 | BARTENDERS                   | 426                   | 440                   | 4                               | 20                                | 24                              | 0.94 2                               |           |
| 90000475 | MANAGERS, FARM EXEC HORT     | 428                   | 439                   | 3                               | 21                                | 24                              | 0.70 2                               |           |
| 41002268 | FIRST LINE SUPERVISORS AND M | 430                   | 439                   | 2                               | 22                                | 24                              | 0.47 2                               |           |
| 85132585 | MAINTENANCE REPAIRERS, GENER | 727                   | 727                   | 0                               | 23                                | 23                              | 0.30 2                               |           |
| 32505198 | LICENSED PRACTICAL NURSES    | 528                   | 570                   | 10                              | 13                                | 23                              | 1.89 2                               |           |
| 32102159 | PHYSICIANS AND SURGEONS      | 227                   | 243                   | 4                               | 18                                | 22                              | 1.76 2                               |           |
| 61099466 | ALL OTH. SERV. SUPERVISORS A | 300                   | 315                   | 4                               | 17                                | 21                              | 1.33 2                               |           |
| 97111838 | BUS DRIVERS, SCHOOL          | 318                   | 330                   | 3                               | 18                                | 21                              | 0.94 2                               |           |
| 21114025 | ACCOUNTANTS AND AUDITORS     | 473                   | 494                   | 5                               | 15                                | 20                              | 1.06 2                               |           |
| 97105842 | TRUCK DRIVERS, LIGHT, INCL.  | 522                   | 523                   | 0                               | 19                                | 19                              | 0.00 2                               |           |
| 92726746 | LAU. AND DRYCL. MACH. OPER.  | 156                   | 171                   | 4                               | 14                                | 18                              | 2.56 2                               |           |
| 68005412 | HAIRDRESSERS, HAIRSTYLISTS,  | 320                   | 345                   | 6                               | 12                                | 18                              | 1.88 2                               |           |
| 19999009 | ALL OTHER MANAGERS AND ADMIN | 324                   | 337                   | 3                               | 13                                | 16                              | 0.93 2                               |           |
| 25302593 | AUTOMOTIVE MECHANICS         | 391                   | 402                   | 3                               | 13                                | 16                              | 0.77 2                               |           |
| 58023327 | STOCK CLERKS, STOCKROCKN. WA | 416                   | 422                   | 2                               | 14                                | 16                              | 0.48 2                               |           |

LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| OES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 15026006 | FOOD SERVICE AND LODGING MAN | 298                   | 307                   | 2                               | 13                                | 15                              | 0.67                                 | 2         |
| 66011418 | HOME HEALTH AIDES            | 185                   | 198                   | 3                               | 12                                | 15                              | 1.62                                 | 2         |
| 67099464 | ALL OTHER CLEAN. AND BLDG. S | 153                   | 159                   | 2                               | 13                                | 15                              | 1.31                                 | 2         |
| 13002015 | FINANCIAL MANAGERS           | 350                   | 362                   | 3                               | 11                                | 14                              | 0.86                                 | 2         |
| 53102366 | TELLERS                      | 395                   | 416                   | 5                               | 9                                 | 14                              | 1.27                                 | 2         |
| 65099393 | ALL OTHER FOOD SERVICE WORKE | 236                   | 249                   | 3                               | 11                                | 14                              | 1.27                                 | 2         |
| 28108110 | LAWYERS                      | 138                   | 150                   | 3                               | 10                                | 13                              | 2.17                                 | 2         |
| 49999265 | ALL OTHER SALES AND RELATED  | 256                   | 259                   | 1                               | 12                                | 13                              | 0.39                                 | 2         |
| 55308348 | TYPISTS                      | 321                   | 335                   | 4                               | 9                                 | 13                              | 1.25                                 | 2         |
| 31321139 | INSTRUCTORS AND COACHES, SPD | 172                   | 183                   | 3                               | 10                                | 13                              | 1.74                                 | 2         |
| 31314140 | TEACHERS AND INSTRUCTORS. VO | 181                   | 189                   | 2                               | 10                                | 12                              | 1.10                                 | 2         |
| 31399141 | ALL OTHER TEACHERS AND INSTR | 172                   | 181                   | 2                               | 10                                | 12                              | 1.16                                 | 2         |
| 49017255 | COUNTER AND RENTAL CLERKS    | 157                   | 168                   | 3                               | 9                                 | 12                              | 1.91                                 | 2         |
| 31521365 | TEACHER AIDES, PARAPROFESSIO | 183                   | 190                   | 2                               | 10                                | 12                              | 1.09                                 | 2         |
| 65014388 | DIN. RM. AND CAFET. ATTENDAN | 327                   | 341                   | 3                               | 8                                 | 11                              | 0.91                                 | 2         |
| 49014273 | SALESPERSONS, PARTS          | 291                   | 293                   | 0                               | 11                                | 11                              | 0.01                                 | 2         |
| 87711524 | HIGHWAY MAINTENANCE WORKERS  | 290                   | 300                   | 2                               | 9                                 | 11                              | 0.69                                 | 2         |
| 53905364 | TEACHER AIDES AND EDUC. ASSI | 257                   | 269                   | 3                               | 7                                 | 10                              | 1.17                                 | 2         |
| 58028328 | TRAFFIC, SHIPPING, AND RECEI | 357                   | 356                   | 0                               | 10                                | 10                              | 0.00                                 | 2         |
| 68038410 | CHILD CARE WORKERS           | 208                   | 225                   | 4                               | 6                                 | 10                              | 1.92                                 | 2         |
| 27311102 | RECREATION WORKERS           | 151                   | 162                   | 3                               | 7                                 | 10                              | 1.99                                 | 2         |
| 27305105 | SOCIAL WORKERS, EXCEPT MEDIC | 227                   | 242                   | 4                               | 6                                 | 10                              | 1.76                                 | 2         |
| 31311144 | TEACHERS. SPECIAL EDUCATION  | 235                   | 244                   | 2                               | 7                                 | 9                               | 0.85                                 | 2         |
| 57305317 | POSTAL MAIL CARRIERS         | 211                   | 214                   | 1                               | 8                                 | 9                               | 0.47                                 | 2         |
| 98902905 | HAND PACKERS AND PACKAGERS   | 493                   | 480                   | -3                              | 12                                | 9                               | -0.61                                | 2         |
| 31502148 | LIBRARIANS, PROFESSIONAL     | 119                   | 123                   | 1                               | 8                                 | 9                               | 0.84                                 | 2         |
| 43002256 | INSURANCE SALES WORKERS      | 133                   | 139                   | 2                               | 7                                 | 9                               | 1.50                                 | 2         |
| 97805861 | SERVICE STATION ATTENDANTS   | 245                   | 251                   | 2                               | 7                                 | 9                               | 0.82                                 | 2         |
| 15005013 | EDUCATION ADMINISTRATORS     | 204                   | 212                   | 2                               | 6                                 | 8                               | 0.98                                 | 2         |
| 57102291 | SWITCHBOARD OPERATORS        | 164                   | 173                   | 2                               | 6                                 | 8                               | 1.22                                 | 2         |
| 89802629 | SLAUGHTERERS AND BUTCHERS    | 1103                  | 1038                  | -16                             | 24                                | 8                               | -1.45                                | 2         |
| 91002501 | FIRST LINE SUPERVISORS, MECH | 317                   | 318                   | 0                               | 8                                 | 8                               | 0.00                                 | 2         |
| 21108046 | LOAN OFFICERS AND COUNSELORS | 166                   | 176                   | 2                               | 6                                 | 8                               | 1.20                                 | 2         |
| 59999367 | ALL OTHER CLERICAL AND ADMIN | 175                   | 181                   | 2                               | 6                                 | 8                               | 1.14                                 | 2         |
| 69999458 | ALL OTHER SERVICE WORKERS    | 75                    | 80                    | 1                               | 7                                 | 8                               | 1.33                                 | 2         |
| 32517156 | PHARMACISTS                  | 117                   | 120                   | 1                               | 6                                 | 7                               | 0.85                                 | 2         |
| 15011022 | PROPERTY AND REAL EST. MANAG | 51                    | 55                    | 1                               | 6                                 | 7                               | 1.96                                 | 2         |
| 81008502 | FIRST LINE SUPERVISORS, PROD | 347                   | 337                   | -2                              | 9                                 | 7                               | -0.58                                | 2         |
| 55105344 | MEDICAL SECRETARIES          | 149                   | 160                   | 3                               | 4                                 | 7                               | 2.01                                 | 2         |
| 68014407 | AMUSEMENT AND RECREATION ATT | 126                   | 135                   | 2                               | 5                                 | 7                               | 1.59                                 | 2         |
| 65002291 | HOSTS AND HOSTESSES, REST./L | 118                   | 121                   | 1                               | 6                                 | 7                               | 0.85                                 | 2         |
| 27308419 | SOCIAL SERVICE TECHNICIANS   | 135                   | 147                   | 3                               | 4                                 | 7                               | 2.22                                 | 2         |
| 93956913 | ALL OTHER ASSEMBLERS AND FAB | 475                   | 463                   | -3                              | 10                                | 7                               | -0.63                                | 2         |
| 98799903 | ALL OTHER FREIGHT, STOCK, AN | 494                   | 485                   | -2                              | 9                                 | 7                               | -0.40                                | 2         |
| 66099465 | ALL OTHER HEALTH SERVICE WCR | 65                    | 70                    | 1                               | 6                                 | 7                               | 1.54                                 | 2         |



LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| OES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 55102343 | LEGAL SECRETARIES            | 123                   | 135                   | 3                               | 4                                 | 7                               | 2.44                                 | 2         |
| 21511034 | PERSONNEL, TRAINING, AND LAB | 195                   | 205                   | 2                               | 5                                 | 7                               | 1.03                                 | 2         |
| 49005274 | SALES REP., SCI. PROD. AND S | 169                   | 167                   | 0                               | 7                                 | 7                               | -0.01                                | 2         |
| 13014010 | ADMINISTRATIVE SERVICES MANA | 125                   | 130                   | 1                               | 5                                 | 6                               | 0.80                                 | 2         |
| 15008019 | MEDICINE AND HEALTH SERVICES | 98                    | 105                   | 2                               | 4                                 | 6                               | 2.04                                 | 2         |
| 15002007 | POSTMASTERS AND MAIL SUPERIN | 69                    | 70                    | 0                               | 6                                 | 6                               | 0.01                                 | 2         |
| 65017394 | COUNTER ATTENDANTS, LUNCHRM. | 309                   | 317                   | 2                               | 4                                 | 6                               | 0.65                                 | 2         |
| 15023011 | COMMUN., TRANSP., AND UTIL.  | 151                   | 151                   | 0                               | 6                                 | 6                               | 0.00                                 | 2         |
| 39999247 | ALL OTHER PROF., PARAPROF.,  | 182                   | 189                   | 2                               | 4                                 | 6                               | 1.10                                 | 2         |
| 63032448 | SHERIFFS AND DEPUTY SHERIFFS | 46                    | 47                    | 0                               | 6                                 | 6                               | 0.02                                 | 2         |
| 66005399 | MEDICAL ASSISTANTS           | 100                   | 108                   | 2                               | 4                                 | 6                               | 2.00                                 | 2         |
| 53808308 | HOTEL DESK CLERKS            | 50                    | 54                    | 1                               | 4                                 | 5                               | 2.00                                 | 2         |
| 55344303 | BILLING, COST, AND RATE CLER | 217                   | 222                   | 1                               | 4                                 | 5                               | 0.46                                 | 2         |
| 31317128 | INSTRUCTORS, ADULT (NONVOCAT | 67                    | 72                    | 1                               | 4                                 | 5                               | 1.49                                 | 2         |
| 85321596 | FARM EQUIPMENT MECHANICS     | 137                   | 136                   | 0                               | 5                                 | 5                               | -0.01                                | 2         |
| 68035420 | SOCIAL WELFARE SERVICE AIDES | 60                    | 64                    | 1                               | 4                                 | 5                               | 1.67                                 | 2         |
| 83005671 | PROD. INSPECTORS, TESTERS, G | 283                   | 271                   | -3                              | 8                                 | 5                               | -1.06                                | 2         |
| 53902337 | LIBRARY ASSISTANTS AND BOOKM | 109                   | 113                   | 1                               | 4                                 | 5                               | 0.92                                 | 2         |
| 53123278 | ADJUSTMENT CLERKS            | 97                    | 103                   | 2                               | 3                                 | 5                               | 2.06                                 | 2         |
| 43014262 | SECURITIES AND FINANCIAL SER | 78                    | 83                    | 1                               | 4                                 | 5                               | 1.28                                 | 2         |
| 13005021 | PERSONNEL, TRAINING, AND LAB | 111                   | 118                   | 2                               | 3                                 | 5                               | 1.80                                 | 2         |
| 13011018 | MARKETING, ADVERTISING, AND  | 214                   | 214                   | 0                               | 5                                 | 5                               | -0.50                                | 2         |
| 89505653 | CUSTOM TAILORS AND SEWERS    | 42                    | 43                    | 0                               | 5                                 | 5                               | 0.02                                 | 2         |
| 32105152 | DENTISTS                     | 47                    | 50                    | 1                               | 4                                 | 5                               | 2.13                                 | 2         |
| 65021380 | BAKERS, BREAD AND PASTRY     | 89                    | 90                    | 0                               | 5                                 | 5                               | 0.01                                 | 2         |
| 85311595 | BUS AND TRUCK MECHANICS AND  | 217                   | 217                   | 0                               | 5                                 | 5                               | -0.50                                | 2         |
| 32902201 | MEDICAL AND CLINICAL LABORAT | 126                   | 134                   | 2                               | 2                                 | 4                               | 1.59                                 | 2         |
| 32999208 | ALL OTHER HEALTH PROF. AND P | 124                   | 132                   | 2                               | 2                                 | 4                               | 1.61                                 | 2         |
| 27302104 | SOCIAL WORKERS, MEDICAL AND  | 88                    | 96                    | 2                               | 2                                 | 4                               | 2.27                                 | 2         |
| 63017430 | CORRECTION OFFICERS AND JAIL | 111                   | 115                   | 1                               | 3                                 | 4                               | 0.90                                 | 2         |
| 34051178 | MUSICIANS, INSTRUMENTAL      | 58                    | 62                    | 1                               | 3                                 | 4                               | 1.72                                 | 2         |
| 53314264 | INSURANCE POLICY PROCESSING  | 67                    | 91                    | 1                               | 3                                 | 4                               | 1.15                                 | 2         |
| 31302113 | TEACHERS, PRESCHOOL AND KIND | 166                   | 175                   | 2                               | 2                                 | 4                               | 1.20                                 | 2         |
| 66002398 | DENTAL ASSISTANTS            | 102                   | 112                   | 2                               | 2                                 | 4                               | 1.96                                 | 2         |
| 98102908 | MECHANIC AND REPAIRER HELPER | 73                    | 73                    | 0                               | 4                                 | 4                               | 1.40                                 | 2         |
| 13008023 | PURCHASING MANAGERS          | 205                   | 207                   | 0                               | 4                                 | 4                               | 0.01                                 | 2         |
| 21999042 | ALL OTHER MANAGEMENT SUPPORT | 135                   | 138                   | 1                               | 3                                 | 4                               | 0.74                                 | 2         |
| 85999619 | ALL OTHER MECHANICS, INSTALL | 93                    | 96                    | 1                               | 3                                 | 4                               | 1.08                                 | 2         |
| 85305591 | AUTOMOTIVE BODY AND RELATED  | 116                   | 122                   | 2                               | 2                                 | 4                               | 1.72                                 | 2         |
| 65023628 | BUTCHERS AND MEATCUTTERS     | 166                   | 168                   | 0                               | 4                                 | 4                               | 0.01                                 | 2         |
| 31218123 | ART, DRAMA & MUSIC TEACHERS  | 54                    | 57                    | 1                               | 3                                 | 4                               | 1.85                                 | 2         |
| 31517142 | INSTRUCTIONAL COORDINATORS   | 58                    | 61                    | 1                               | 3                                 | 4                               | 1.72                                 | 2         |
| 55321336 | FILE CLERKS                  | 110                   | 115                   | 1                               | 3                                 | 4                               | 0.91                                 | 2         |
| 19002008 | PUB. ADMIN. CH. EXEC., LEGIS | 58                    | 60                    | 0                               | 4                                 | 4                               | 0.03                                 | 2         |
| 55311349 | TYPISTS, WORD PROCESSING ECU | 111                   | 114                   | 1                               | 3                                 | 4                               | 0.50                                 | 2         |

LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| DES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 85723570 | ELECTRICAL POWERLINE INSTALL | 183                   | 183                   | 0                               | 4                                 | 4                               | 0.00                                 | 2         |
| 63044451 | CROSSING GUARDS              | 28                    | 27                    | 0                               | 4                                 | 4                               | -0.04                                | 2         |
| 97108837 | BUS DRIVERS                  | 57                    | 60                    | 1                               | 3                                 | 4                               | 1.75                                 | 2         |
| 32521153 | DIETITIANS AND NUTRITIONISTS | 44                    | 47                    | 1                               | 3                                 | 4                               | 2.27                                 | 2         |
| 95002827 | WATER AND LIQ. WASTE TREAT.  | 74                    | 77                    | 1                               | 3                                 | 4                               | 1.35                                 | 2         |
| 58026324 | ORDER FILLERS, WHOLESALE AND | 113                   | 112                   | 0                               | 4                                 | 4                               | -0.01                                | 2         |
| 55323338 | ORDER CLERKS, MATERIALS, MER | 129                   | 128                   | 0                               | 4                                 | 4                               | -0.01                                | 2         |
| 87102512 | CARPENTERS                   | 272                   | 249                   | -6                              | 10                                | 4                               | -2.21                                | 2         |
| 15014017 | INDUSTRIAL PRODUCTION MANAGE | 95                    | 93                    | 0                               | 4                                 | 4                               | -0.02                                | 2         |
| 97947867 | INDUSTRIAL TRUCK AND TRACTOR | 337                   | 330                   | -2                              | 6                                 | 4                               | -0.59                                | 2         |
| 32114169 | VETERINARIANS AND VETERINARY | 36                    | 39                    | 1                               | 2                                 | 3                               | 2.78                                 | 2         |
| 34038174 | DESIGNERS, EXCEPT INTERIOR D | 75                    | 79                    | 1                               | 2                                 | 3                               | 1.33                                 | 2         |
| 92728747 | PRESS. MACH. OPER. AND TEND. | 40                    | 42                    | 0                               | 3                                 | 3                               | 0.05                                 | 2         |
| 21111040 | TAX PREPARERS                | 51                    | 56                    | 1                               | 2                                 | 3                               | 1.96                                 | 2         |
| 55302346 | STENOGRAPHERS                | 52                    | 55                    | 1                               | 2                                 | 3                               | 1.92                                 | 2         |
| 63014442 | POLICE PATROL OFFICERS       | 147                   | 152                   | 1                               | 2                                 | 3                               | 0.68                                 | 2         |
| 31505242 | TECHNICAL ASSISTANTS, LIBRAR | 39                    | 41                    | 0                               | 3                                 | 3                               | 0.05                                 | 2         |
| 53121358 | LOAN AND CREDIT CLERKS       | 66                    | 69                    | 1                               | 2                                 | 3                               | 1.52                                 | 2         |
| 22502212 | CIVIL ENGINEERING TECHNICIAN | 103                   | 106                   | 1                               | 2                                 | 3                               | 0.97                                 | 2         |
| 98905906 | VEHICLE WASHERS AND EQUIPMEN | 172                   | 174                   | 0                               | 3                                 | 3                               | 0.01                                 | 2         |
| 66017405 | PHYS. AND CORRECT. THERAPY A | 44                    | 47                    | 1                               | 2                                 | 3                               | 2.27                                 | 2         |
| 56017355 | DATA ENTRY KEYERS, EXC. COMP | 167                   | 172                   | 1                               | 2                                 | 3                               | 0.60                                 | 2         |
| 49026275 | VENDORS, SOLICITORS, AND REL | 50                    | 53                    | 1                               | 2                                 | 3                               | 2.00                                 | 2         |
| 13017014 | ENGINEERING, MATH & NATURAL  | 63                    | 65                    | 0                               | 3                                 | 3                               | 0.03                                 | 2         |
| 43099266 | ALL OTHER SALES REP. AND SAL | 26                    | 29                    | 1                               | 2                                 | 3                               | 3.85                                 | 2         |
| 31514149 | COUNSELORS                   | 85                    | 90                    | 1                               | 2                                 | 3                               | 1.18                                 | 2         |
| 34008183 | PUBLIC REL. SPECIALISTS AND  | 48                    | 50                    | 0                               | 3                                 | 3                               | 0.04                                 | 2         |
| 55332370 | INTERVIEWING CLERKS, EXC. PE | 71                    | 76                    | 1                               | 2                                 | 3                               | 1.41                                 | 2         |
| 32905200 | MEDICAL AND CLINICAL LABORAT | 86                    | 93                    | 2                               | 1                                 | 3                               | 2.33                                 | 2         |
| 53302280 | INS. ADJUSTERS, EXAMINERS, A | 72                    | 76                    | 1                               | 2                                 | 3                               | 1.39                                 | 2         |
| 56011295 | COMPUTER OPERATORS, EXC. PER | 146                   | 153                   | 2                               | 1                                 | 3                               | 1.37                                 | 2         |
| 53105309 | NEW ACCOUNTS CLERKS          | 59                    | 63                    | 1                               | 2                                 | 3                               | 1.69                                 | 2         |
| 32399167 | ALL OTHER THERAPISTS         | 85                    | 91                    | 2                               | 1                                 | 3                               | 2.35                                 | 2         |
| 66014402 | PSYCHIATRIC AIDES            | 45                    | 48                    | 1                               | 2                                 | 3                               | 2.22                                 | 2         |
| 21911028 | COMPLIANCE AND ENFORCE. INSP | 60                    | 62                    | 0                               | 3                                 | 3                               | 0.03                                 | 2         |
| 65011395 | FOOD SERVERS, OUTSIDE        | 89                    | 96                    | 2                               | 1                                 | 3                               | 2.25                                 | 2         |
| 21302038 | WHOLESALE AND RETAIL BUYERS. | 96                    | 97                    | 0                               | 3                                 | 3                               | 0.01                                 | 2         |
| 32508197 | EMERGENCY MEDICAL TECHNICIAN | 81                    | 86                    | 1                               | 2                                 | 3                               | 1.23                                 | 2         |
| 65035386 | COOKS, SHORT ORDER           | 181                   | 184                   | 1                               | 2                                 | 3                               | 0.55                                 | 2         |
| 97117841 | DRIVER/SALES WORKERS         | 162                   | 159                   | -1                              | 4                                 | 3                               | -0.62                                | 2         |
| 89108639 | MACHINISTS                   | 170                   | 170                   | 0                               | 3                                 | 3                               | -0.60                                | 2         |
| 57308318 | POSTAL SERVICE CLERKS        | 86                    | 87                    | 0                               | 3                                 | 3                               | 0.01                                 | 2         |
| 43023270 | SALES AGENTS, ADVERTISING    | 58                    | 59                    | 0                               | 3                                 | 3                               | 0.02                                 | 2         |
| 85905615 | PRECISION INSTRUMENT REPAIR  | 17                    | 17                    | 0                               | 3                                 | 3                               | 0.00                                 | 2         |
| 58009326 | PRODUCTION, PLANNING, AND EX | 77                    | 77                    | 0                               | 3                                 | 3                               | 0.00                                 | 2         |

LISTINGS OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| OES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 98705902 | REFUSE COLLECTORS            | 80                    | 81                    | 0                               | 3                                 | 3                               | 0.01                                 | 2         |
| 43021264 | TRAVEL AGENTS                | 53                    | 54                    | 0                               | 3                                 | 3                               | 0.02                                 | 2         |
| 93999815 | ALL OTHER HAND WORKERS       | 104                   | 104                   | 0                               | 3                                 | 3                               | 0.00                                 | 2         |
| 34002190 | WRITERS AND EDITORS          | 64                    | 63                    | 0                               | 3                                 | 3                               | -0.02                                | 2         |
| 55335354 | CUSTOMER SERVICE REPRESENTAT | 101                   | 102                   | 0                               | 3                                 | 3                               | 0.01                                 | 2         |
| 92998782 | ALL OTHER MACHINE OPERATORS  | 152                   | 151                   | 0                               | 3                                 | 3                               | -0.01                                | 2         |
| 85911603 | ELECTRIC METER INSTALLERS AM | 16                    | 16                    | 0                               | 3                                 | 3                               | 0.00                                 | 2         |
| 87402528 | PAINTERS AND PAPERHANGERS, C | 86                    | 82                    | -1                              | 4                                 | 3                               | -1.16                                | 2         |
| 93914812 | WELDERS AND CUTTERS          | 200                   | 199                   | 0                               | 3                                 | 3                               | -0.01                                | 2         |
| 85711607 | ELECTRIC HOME APPL. AND POWE | 32                    | 34                    | 0                               | 2                                 | 2                               | 0.06                                 | 2         |
| 25102076 | COMPUTER SYSTEMS ANALYSTS, E | 107                   | 110                   | 1                               | 1                                 | 2                               | 0.93                                 | 2         |
| 43017271 | SALES AGENTS, SELECTED BUSIN | 72                    | 74                    | 0                               | 2                                 | 2                               | 0.03                                 | 2         |
| 39011245 | FUNERAL DIRECTORS AND MORTIC | 25                    | 27                    | 0                               | 2                                 | 2                               | 0.08                                 | 2         |
| 53508279 | BILL AND ACCDUNT COLLECTORS  | 39                    | 41                    | 0                               | 2                                 | 2                               | 0.05                                 | 2         |
| 58021332 | MARKING CLERKS               | 42                    | 44                    | 0                               | 2                                 | 2                               | 0.05                                 | 2         |
| 83099673 | ALL OTHER INSPECTORS, TESTER | 45                    | 46                    | 0                               | 2                                 | 2                               | 0.02                                 | 2         |
| 56008301 | MAIL MACHINE OPERATORS, PREP | 32                    | 35                    | 1                               | 1                                 | 2                               | 3.12                                 | 2         |
| 97114839 | TAXI DRIVERS AND CHAUFFEURS  | 26                    | 27                    | 0                               | 2                                 | 2                               | 0.04                                 | 2         |
| 53311282 | INSURANCE CLAIMS CLERKS      | 49                    | 52                    | 1                               | 1                                 | 2                               | 2.04                                 | 2         |
| 56002304 | BILLING, POSTING, AND CALC.  | 75                    | 77                    | 0                               | 2                                 | 2                               | 0.03                                 | 2         |
| 68041461 | FUNERAL ATTENDANTS           | 19                    | 21                    | 0                               | 2                                 | 2                               | 0.11                                 | 2         |
| 66026404 | PHARMACY ASSISTANTS          | 58                    | 60                    | 0                               | 2                                 | 2                               | 0.03                                 | 2         |
| 22121054 | CIVIL ENGINEERS, INCLUDING T | 60                    | 62                    | 0                               | 2                                 | 2                               | 0.03                                 | 2         |
| 22599216 | ALL OTHER ENGINEERING TECHN  | 54                    | 57                    | 1                               | 1                                 | 2                               | 1.85                                 | 2         |
| 63035452 | DETECTIVES AND INVESTIGATORS | 24                    | 25                    | 0                               | 2                                 | 2                               | 0.04                                 | 2         |
| 31210132 | SOCIAL SCIENCE TEACHERS      | 53                    | 55                    | 0                               | 2                                 | 2                               | 0.04                                 | 2         |
| 28305235 | PARALEGAL PERSONNEL          | 35                    | 37                    | 0                               | 2                                 | 2                               | 0.06                                 | 2         |
| 32917206 | RADIOLOGIC TECHNOLOGISTS     | 57                    | 61                    | 1                               | 1                                 | 2                               | 1.75                                 | 2         |
| 21102041 | UNDERWRITERS                 | 30                    | 33                    | 1                               | 1                                 | 2                               | 3.33                                 | 2         |
| 21308037 | PURCHASING AGENTS, ETC. WH.. | 60                    | 59                    | 0                               | 2                                 | 2                               | -0.02                                | 2         |
| 92935764 | CHEMICAL EQUIF. CONTROLLERS  | 70                    | 69                    | 0                               | 2                                 | 2                               | -0.01                                | 2         |
| 58099331 | ALL OTH. MAT. REC., SCHED.,  | 35                    | 36                    | 0                               | 2                                 | 2                               | 0.03                                 | 2         |
| 21917026 | ASSESSORS                    | 33                    | 34                    | 0                               | 2                                 | 2                               | 0.03                                 | 2         |
| 79011475 | GRADERS AND SORTERS, AGRICUL | 17                    | 16                    | 0                               | 2                                 | 2                               | -0.06                                | 2         |
| 32308163 | PHYSICAL THERAPISTS          | 41                    | 44                    | 1                               | 1                                 | 2                               | 2.44                                 | 2         |
| 58014323 | METER READERS, UTILITIES     | 78                    | 79                    | 0                               | 2                                 | 2                               | 0.01                                 | 2         |
| 81011503 | FIRST LINE SUPER., TR./MAT.  | 82                    | 81                    | 0                               | 2                                 | 2                               | -0.01                                | 2         |
| 21914039 | TAX EXAMINERS, COLLECTORS, A | 40                    | 41                    | 0                               | 2                                 | 2                               | 0.03                                 | 2         |
| 81017500 | FIRST LINE SUPERVISORS, HELP | 49                    | 48                    | 0                               | 2                                 | 2                               | -0.02                                | 2         |
| 55341306 | PAYROLL AND TIMEKEEPING CLER | 68                    | 67                    | 0                               | 2                                 | 2                               | -0.01                                | 2         |
| 22505213 | ELECTRICAL AND ELECTRONIC TE | 110                   | 108                   | 0                               | 2                                 | 2                               | -0.02                                | 2         |
| 92908778 | PHOTOGRAPHIC PROCESSING MACH | 38                    | 42                    | 1                               | 1                                 | 2                               | 2.63                                 | 2         |
| 58005321 | DISPATCHERS, EXC. POLICE, FI | 96                    | 96                    | 0                               | 2                                 | 2                               | 0.00                                 | 2         |
| 93935799 | CANNERY WORKERS              | 83                    | 78                    | -1                              | 3                                 | 2                               | -1.20                                | 2         |
| 89102643 | TOOL AND DIE MAKERS          | 66                    | 66                    | 0                               | 2                                 | 2                               | 0.00                                 | 2         |



LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| OES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 57311316 | MESSENGERS                   | 27                    | 27                    | 0                               | 2                                 | 2                               | 0.00                                 | 2         |
| 85953617 | TIRE REPAIRERS AND CHANGERS  | 76                    | 76                    | 0                               | 2                                 | 2                               | 0.00                                 | 2         |
| 21305048 | PURCHASING AGENTS AND BUYERS | 65                    | 62                    | -1                              | 3                                 | 2                               | -1.54                                | 2         |
| 95032826 | STATIONARY ENGINEERS         | 74                    | 71                    | -1                              | 3                                 | 2                               | -1.35                                | 2         |
| 34011187 | REPORTERS AND CORRESPONDENTS | 46                    | 45                    | 0                               | 2                                 | 2                               | -0.02                                | 2         |
| 27108095 | PSYCHOLOGISTS                | 54                    | 58                    | 1                               | 1                                 | 2                               | 1.85                                 | 2         |
| 95008822 | CHEMICAL PLANT AND SYSTEM OP | 61                    | 61                    | 0                               | 2                                 | 2                               | 0.00                                 | 2         |
| 21508033 | EMPLOY. INTERVIEWERS, PVT. O | 55                    | 58                    | 1                               | 1                                 | 2                               | 1.82                                 | 2         |
| 85902605 | HEAT., A/C, AND REFRIG. MACH | 99                    | 95                    | -1                              | 3                                 | 2                               | -1.01                                | 2         |
| 32928207 | SURGICAL TECHNICIANS         | 52                    | 56                    | 1                               | 1                                 | 2                               | 1.92                                 | 2         |
| 87202520 | ELECTRICIANS                 | 194                   | 183                   | -3                              | 5                                 | 2                               | -1.55                                | 2         |
| 63008432 | FIRE FIGHTERS                | 110                   | 115                   | 1                               | 1                                 | 2                               | 0.91                                 | 2         |
| 32108155 | OPTOMETRISTS                 | 18                    | 20                    | 0                               | 2                                 | 2                               | 0.11                                 | 2         |
| 81099504 | ALL OTHER FIRST LINE SUPV. P | 65                    | 65                    | 0                               | 2                                 | 2                               | 0.00                                 | 2         |
| 95099829 | ALL OTHER PLANT AND SYSTEM O | 62                    | 62                    | 0                               | 2                                 | 2                               | 0.00                                 | 2         |
| 92965767 | CRUSHING AND MIXING MACH. OP | 152                   | 145                   | -2                              | 4                                 | 2                               | -1.32                                | 2         |
| 87508527 | PIPELAYERS                   | 55                    | 53                    | 0                               | 2                                 | 2                               | -0.04                                | 2         |
| 49032267 | DEMONSTRATORS. PROMOTERS. AN | 17                    | 18                    | 0                               | 1                                 | 1                               | 0.06                                 | 2         |
| 53702351 | COURT CLERKS                 | 14                    | 15                    | 0                               | 1                                 | 1                               | 0.07                                 | 2         |
| 34023181 | PHOTOGRAPHERS                | 28                    | 29                    | 0                               | 1                                 | 1                               | 0.04                                 | 2         |
| 53705359 | MUNICIPAL CLERKS             | 37                    | 38                    | 0                               | 1                                 | 1                               | 0.03                                 | 2         |
| 89111645 | TOOL GRINDERS. FILERS. SHARP | 22                    | 23                    | 0                               | 1                                 | 1                               | 0.05                                 | 2         |
| 32302165 | RESPIRATORY THERAPISTS       | 34                    | 36                    | 0                               | 1                                 | 1                               | 0.06                                 | 2         |
| 31114 43 | NURSING INSTRUCTORS          | 29                    | 32                    | 1                               | 0                                 | 1                               | 3.45                                 | 2         |
| 31294.04 | ALL OTHER POSTSECONDARY TEAC | 91                    | 95                    | 1                               | 0                                 | 1                               | 1.10                                 | 2         |
| 31216127 | ENGLISH & FOREIGN LANGUAGE T | 54                    | 56                    | 0                               | 1                                 | 1                               | 0.04                                 | 2         |
| 25105232 | COMPUTER PROGRAMMERS         | 124                   | 126                   | 0                               | 1                                 | 1                               | 0.02                                 | 2         |
| 31224130 | MATHEMATICAL SCIENCE TEACHER | 27                    | 29                    | 0                               | 1                                 | 1                               | 0.07                                 | 2         |
| 31206131 | PHYSICS TEACHERS             | 9                     | 10                    | 0                               | 1                                 | 1                               | 0.11                                 | 2         |
| 55328362 | STATISTICAL CLERKS           | 30                    | 32                    | 0                               | 1                                 | 1                               | 0.07                                 | 2         |
| 32908193 | DENTAL HYGIENISTS            | 42                    | 46                    | 1                               | 0                                 | 1                               | 2.38                                 | 2         |
| 85926614 | OFFICE MACHINE AND CASH REGI | 44                    | 45                    | 0                               | 1                                 | 1                               | 0.02                                 | 2         |
| 89514660 | SPOTTERS. DRY CLEANING       | 11                    | 12                    | 0                               | 1                                 | 1                               | 0.09                                 | 2         |
| 31117137 | GRADUATE ASSISTANTS, TEACHIN | 22                    | 24                    | 0                               | 1                                 | 1                               | 0.09                                 | 2         |
| 21905047 | MANAGEMENT ANALYSTS          | 20                    | 21                    | 0                               | 1                                 | 1                               | 0.05                                 | 2         |
| 68002409 | BARBERS                      | 6                     | 7                     | 0                               | 1                                 | 1                               | 0.17                                 | 2         |
| 24305078 | AGRICULTURAL AND FOOD SCIENT | 19                    | 21                    | 0                               | 1                                 | 1                               | 0.11                                 | 2         |
| 53502286 | WELFARE ELIGIBILITY WORKERS  | 92                    | 94                    | 0                               | 1                                 | 1                               | 0.02                                 | 2         |
| 85708572 | ELECTRONIC HOME ENTERTAINMEN | 34                    | 35                    | 0                               | 1                                 | 1                               | 0.03                                 | 2         |
| 31222126 | ENGINEERING TEACHERS         | 16                    | 17                    | 0                               | 1                                 | 1                               | 0.06                                 | 2         |
| 34041251 | INTERIOR DESIGNERS           | 21                    | 22                    | 0                               | 1                                 | 1                               | 0.05                                 | 2         |
| 56014296 | PERIPHERAL EDP EQUIPMENT OPE | 27                    | 29                    | 0                               | 1                                 | 1                               | 0.07                                 | 2         |
| 56099300 | ALL OTHER OFFICE MACHINE OPE | 42                    | 43                    | 0                               | 1                                 | 1                               | 0.02                                 | 2         |
| 68021421 | USHERS. LOBBY ATTENDANTS, AN | 24                    | 26                    | 0                               | 1                                 | 1                               | 0.08                                 | 2         |
| 65119582 | ALL OTHER MACHINERY MAINTENA | 19                    | 20                    | 0                               | 1                                 | 1                               | 0.05                                 | 2         |

LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| OES Code | Occupational Title           | Employment Level 1968 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area Type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 79017473 | ANIMAL CARETAKERS, EXCEPT FA | 32                    | 33                    | 0                               | 1                                 | 1                               | 0.03                                 | 2         |
| 21117043 | BUDGET ANALYSTS              | 15                    | 16                    | 0                               | 1                                 | 1                               | 0.07                                 | 2         |
| 55314339 | PERSONNEL CLERKS, EXC. PAYRO | 32                    | 34                    | 0                               | 1                                 | 1                               | 0.06                                 | 2         |
| 24302080 | FORESTERS AND CONSERVATION S | 21                    | 22                    | 0                               | 1                                 | 1                               | 0.05                                 | 2         |
| 32921205 | RADIOLOGIC TECHNICIANS       | 44                    | 46                    | 0                               | 1                                 | 1                               | 0.05                                 | 2         |
| 58002322 | DISPATCHERS, POLICE, FIRE, A | 50                    | 51                    | 0                               | 1                                 | 1                               | 0.02                                 | 2         |
| 90000477 | SUPERVISORS, FARM WORKERS    | 31                    | 32                    | 0                               | 1                                 | 1                               | 0.03                                 | 2         |
| 57302315 | MAIL CLERKS, EXC. MAIL MACH. | 33                    | 35                    | 0                               | 1                                 | 1                               | 0.06                                 | 2         |
| 57108289 | CENTRAL OFFICE OPERATORS     | 20                    | 20                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 28390239 | ALL OTHER LEGAL ASSISTANTS A | 19                    | 19                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 58017330 | WEIGHERS, MEAS., CHECK., AND | 17                    | 17                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 32111157 | PODIATRISTS                  | 4                     | 4                     | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 53126340 | STATEMENT CLERKS             | 27                    | 29                    | 0                               | 1                                 | 1                               | 0.07                                 | 2         |
| 32911202 | MEDICAL RECORDS TECHNICIANS  | 42                    | 45                    | 1                               | 0                                 | 1                               | 2.38                                 | 2         |
| 53805312 | RESERVATION AND TRANSPORTATI | 73                    | 73                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 80002899 | LAWN SERV. WKRS & TREE TRIM. | 18                    | 20                    | 0                               | 1                                 | 1                               | 0.11                                 | 2         |
| 28105108 | ADJUDICATORS, HEAR. OFFICERS | 9                     | 9                     | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 89517659 | PRESSERS, DELICATE FABRICS   | 17                    | 19                    | 0                               | 1                                 | 1                               | 0.12                                 | 2         |
| 27502100 | CLERGY                       | 11                    | 13                    | 0                               | 1                                 | 1                               | 0.18                                 | 2         |
| 28302234 | LAW CLERKS                   | 17                    | 19                    | 0                               | 1                                 | 1                               | 0.12                                 | 2         |
| 28311237 | TITLE EXAMINERS AND ABSTRACT | 11                    | 11                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 32514154 | OPTICIANS, DISPENSING AND ME | 56                    | 58                    | 0                               | 1                                 | 1                               | 0.04                                 | 2         |
| 79002490 | FOREST AND CONSERVATION WORK | 52                    | 54                    | 0                               | 1                                 | 1                               | 0.04                                 | 2         |
| 87999557 | ALL OTHER CONSTRUCTION AND E | 31                    | 34                    | 1                               | 0                                 | 1                               | 3.23                                 | 2         |
| 32523194 | DIETETIC TECHNICIANS         | 13                    | 13                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 31323136 | FARM AND HOME MANAGEMENT ADV | 18                    | 18                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 63021446 | PARKING ENFORCEMENT OFFICERS | 5                     | 5                     | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 92541739 | TYPESETTING AND COMPOSING MA | 21                    | 22                    | 0                               | 1                                 | 1                               | 0.05                                 | 2         |
| 34028229 | BROADCAST TECHNICIANS        | 27                    | 27                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 43011260 | REAL ESTATE APPRAISERS       | 15                    | 16                    | 0                               | 1                                 | 1                               | 0.07                                 | 2         |
| 63099454 | ALL OTHER PROTECTIVE SERVICE | 95                    | 100                   | 1                               | 0                                 | 1                               | 1.05                                 | 2         |
| 66022397 | AMBULANCE DRIVERS AND ATTEND | 19                    | 19                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 15017012 | CONSTRUCTION MANAGERS        | 89                    | 80                    | -2                              | 3                                 | 1                               | -2.25                                | 2         |
| 87502530 | PLUMBERS, PIPEFITTERS, AND S | 134                   | 123                   | -3                              | 4                                 | 1                               | -2.24                                | 2         |
| 97938871 | GRADER, DOZER, AND SCRAPER O | 50                    | 45                    | -1                              | 2                                 | 1                               | -2.00                                | 2         |
| 85110577 | INDUSTRIAL MACHINERY MECHANI | 122                   | 118                   | -1                              | 2                                 | 1                               | -0.82                                | 2         |
| 22128056 | INDUSTRIAL ENGINEERS, EXCEPT | 34                    | 32                    | 0                               | 1                                 | 1                               | -0.06                                | 2         |
| 89502654 | PATTERNMAKERS AND LAYOUT WOR | 17                    | 17                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 95021831 | POWER GEN. PLANT OPER., EXC. | 26                    | 26                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 91502686 | NUM. CONT. MACH. TOOL OP. AN | 48                    | 47                    | 0                               | 1                                 | 1                               | -0.02                                | 2         |
| 91321696 | MACHINE FORMING OP. AND TEND | 38                    | 37                    | 0                               | 1                                 | 1                               | -0.03                                | 2         |
| 34017185 | ANNOUNCERS, RADIO AND TELEVI | 82                    | 81                    | 0                               | 1                                 | 1                               | -0.01                                | 2         |
| 92543733 | PRINTING PRESS MACH. OPERATO | 52                    | 51                    | 0                               | 1                                 | 1                               | -0.02                                | 2         |
| 92974774 | PACKAGING AND FILLING MACH.  | 352                   | 333                   | -5                              | 6                                 | 1                               | -1.42                                | 2         |
| 98502900 | MACHINE FEEDERS AND OFFBEARE | 162                   | 155                   | -2                              | 3                                 | 1                               | -1.23                                | 2         |

LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| OES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 89311662 | CABINETMAKERS AND BENCH CARP | 17                    | 16                    | 0                               | 1                                 | 1                               | -0.06                                | 2         |
| 89308665 | WOOD MACHINISTS              | 14                    | 13                    | 0                               | 1                                 | 1                               | -0.07                                | 2         |
| 87714531 | RAIL-TRACK LAYING AND MAINT. | 21                    | 21                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 85128584 | MACHINERY MAINTENANCE WORKER | 38                    | 38                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 22135057 | MECHANICAL ENGINEERS         | 71                    | 68                    | -1                              | 2                                 | 1                               | -1.41                                | 2         |
| 24505224 | CHEM. TECHN. AND TECHNOL., E | 37                    | 35                    | 0                               | 1                                 | 1                               | -0.05                                | 2         |
| 21921027 | CLAIMS EXAMINERS, PROP. AND  | 11                    | 11                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 91105695 | LATHE MACH. TOOL SET. & SET- | 50                    | 50                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 85314597 | MOBILE HEAVY EQUIPMENT MECHA | 56                    | 54                    | 0                               | 1                                 | 1                               | -0.04                                | 2         |
| 98316897 | HELPERS, ROOFERS             | 16                    | 14                    | 0                               | 1                                 | 1                               | -0.12                                | 2         |
| 92512732 | OFFSET LITHOGRAPHIC PRESS SE | 21                    | 21                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 92721749 | SEWING MACHINE OPERATORS, NO | 18                    | 18                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 91705708 | WELDING MACHINE OPERATORS AN | 34                    | 32                    | 0                               | 1                                 | 1                               | -0.06                                | 2         |
| 98315896 | HELPERS, PLUMBERS, PIPEFITE  | 23                    | 21                    | 0                               | 1                                 | 1                               | -0.09                                | 2         |
| 91117697 | MACH. TOOL CUT. OP. AND TEND | 68                    | 66                    | 0                               | 1                                 | 1                               | -0.03                                | 2         |
| 21199049 | ALL OTHER FINANCIAL SPECIALI | 38                    | 38                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 92921779 | ROASTING MACH. OPER. AND TEN | 25                    | 24                    | 0                               | 1                                 | 1                               | -0.04                                | 2         |
| 97999887 | ALL OTHER MATERIAL MOVING ED | 42                    | 41                    | 0                               | 1                                 | 1                               | -0.02                                | 2         |
| 63041445 | FISH AND GAME WARDENS        | 7                     | 7                     | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 92705753 | TEXTILE MACH. OPER. AND TEND | 27                    | 26                    | 0                               | 1                                 | 1                               | -0.04                                | 2         |
| 92914777 | PAPER GOODS MACH. SETTERS AN | 20                    | 20                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 21908029 | CONSTRUCTION AND BUILDING IN | 18                    | 18                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 24502223 | BIO. AND AG. TECHN. AND TECH | 47                    | 47                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 85928610 | MECH. CONT. AND VALVE INSTAL | 23                    | 23                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 89808630 | FOOD BATCHMAKERS             | 35                    | 34                    | 0                               | 1                                 | 1                               | -0.03                                | 2         |
| 85921613 | MUSICAL INSTRUMENT REPAIRERS | 5                     | 5                     | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 89508656 | UPHOLSTERERS                 | 10                    | 10                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 85923609 | LOCKSMITHS AND SAFE REPAIRER | 4                     | 4                     | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 95023321 | AUXILIARY EQUIPMENT OPERATOR | 22                    | 22                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 34014186 | BROADCAST NEWS ANALYSTS      | 17                    | 17                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 97899537 | ALL OTHER CONSTRUCTION TRADE | 20                    | 19                    | 0                               | 1                                 | 1                               | -0.05                                | 2         |
| 85944608 | GAS APPLIANCE REPAIRERS      | 24                    | 24                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 85721622 | POWERHOUSE, SUBSTATION, AND  | 32                    | 32                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 98313894 | HELPERS, ELECTRIC. AND POWER | 30                    | 29                    | 0                               | 1                                 | 1                               | -0.03                                | 2         |
| 85908604 | ELECTROMEDICAL AND BIOMEDICA | 7                     | 7                     | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 97944865 | CRANE AND TOWER OPERATORS    | 18                    | 18                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 79005478 | NURSERY WORKERS              | 25                    | 25                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 89805626 | BAKERS, MANUFACTURING        | 20                    | 18                    | 0                               | 1                                 | 1                               | -0.10                                | 2         |
| 22126055 | ELECTRICAL AND ELECTRONICS E | 54                    | 54                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 97808860 | PARKING LOT ATTENDANTS       | 5                     | 5                     | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 91702709 | WELDING MACHINE SETTERS AND  | 38                    | 37                    | 0                               | 1                                 | 1                               | -0.03                                | 2         |
| 85328599 | SMALL ENGINE SPECIALISTS     | 23                    | 23                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 92926762 | BOILER OPERATORS AND TENDERS | 17                    | 16                    | 0                               | 1                                 | 1                               | -0.06                                | 2         |
| 92962780 | SEPARATING AND STILL MACH. O | 22                    | 22                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 85947602 | COIN AND VENDING MACH. SERVI | 20                    | 19                    | 0                               | 1                                 | 1                               | -0.05                                | 2         |

LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| OES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 89702648 | COMPOSITORS, TYPESETTERS AN  | 17                    | 17                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 89999681 | ALL OTHER PRECISION WORKERS  | 30                    | 30                    | 0                               | 1                                 | 1                               | -3.20                                | 2         |
| 87811522 | GLAZIERS                     | 26                    | 25                    | 0                               | 1                                 | 1                               | -0.04                                | 2         |
| 85917618 | WATCHMAKERS                  | 4                     | 4                     | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 85118581 | MACHINERY MAINTENANCE MECHAN | 28                    | 28                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 85302561 | CENTRAL OFFICE AND PBX INSTA | 14                    | 14                    | 0                               | 1                                 | 1                               | 0.00                                 | 2         |
| 82311073 | SURVEYING AND MAPPING SCIENT | 6                     | 7                     | 0                               | 0                                 | 0                               | 0.17                                 | 2         |
| 89711647 | BOOKBINDERS                  | 2                     | 3                     | 0                               | 0                                 | 0                               | 0.50                                 | 2         |
| 85717573 | ELECTRONICS REPAIRERS, COMME | 11                    | 12                    | 0                               | 0                                 | 0                               | 0.09                                 | 2         |
| 97199886 | ALL OTHER MOTOR VEHICLE OPER | 9                     | 10                    | 0                               | 0                                 | 0                               | 0.11                                 | 2         |
| 85714571 | ELECTRIC MOTOR, TRANSFORMER. | 17                    | 18                    | 0                               | 0                                 | 0                               | 0.06                                 | 2         |
| 32305162 | OCCUPATIONAL THERAPISTS      | 17                    | 18                    | 0                               | 0                                 | 0                               | 0.06                                 | 2         |
| 25312065 | STATISTICIANS                | 3                     | 4                     | 0                               | 0                                 | 0                               | 0.33                                 | 2         |
| 22302070 | ARCHITECTS, ETC. LANDSCAPE A | 13                    | 14                    | 0                               | 0                                 | 0                               | 0.08                                 | 2         |
| 39002228 | AIR TRAFFIC CONTROLLERS      | 13                    | 14                    | 0                               | 0                                 | 0                               | 0.08                                 | 2         |
| 85314563 | RADIO MECHANICS              | 11                    | 12                    | 0                               | 0                                 | 0                               | 0.09                                 | 2         |
| 22105058 | METALLURGISTS AND MET.. CER. | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 83008672 | TRANSPORTATION INSPECTORS    | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 27599248 | ALL OTHER RELIGIOUS WORKERS  | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 28308238 | TITLE SEARCHERS              | 2                     | 2                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 24199092 | ALL OTHER PHYSICAL SCIENTIST | 12                    | 12                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 27505101 | DIRECTORS, RELIGIOUS ACTIVIT | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 25310083 | MATHNETICAL SCIENTISTS       | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 53114352 | CREDIT AUTHORIZERS           | 6                     | 6                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 49002272 | SALES ENGINEERS              | 13                    | 13                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 80000200 | SUPERVISORS, ANIMAL CARE & L | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 53111372 | LOAN INTERVIEWERS            | 11                    | 11                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 43005258 | BROKERS, REAL ESTATE         | 7                     | 8                     | 0                               | 0                                 | 0                               | 0.14                                 | 2         |
| 79999495 | ALL OTH. AGRIC., FOREST., FI | 216                   | 217                   | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 68023408 | BAGGAGE PORTERS AND BELLHOPS | 6                     | 7                     | 0                               | 0                                 | 0                               | 0.17                                 | 2         |
| 31209133 | ALL OTHER PHYSICAL SCIENCE T | 11                    | 12                    | 0                               | 0                                 | 0                               | 0.09                                 | 2         |
| 21105044 | CREDIT ANALYSTS              | 11                    | 12                    | 0                               | 0                                 | 0                               | 0.09                                 | 2         |
| 24599222 | ALL OTHER SCIENCE TECHNICIAN | 29                    | 30                    | 0                               | 0                                 | 0                               | 0.03                                 | 2         |
| 22132063 | SAFETY ENGINEERS, EXCEPT MIN | 7                     | 8                     | 0                               | 0                                 | 0                               | 0.14                                 | 2         |
| 53305281 | INSURANCE APPRAISERS, AUTO D | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 53914361 | REAL ESTATE CLERKS           | 9                     | 10                    | 0                               | 0                                 | 0                               | 0.11                                 | 2         |
| 25302252 | OPERATIONS AND SYSTEMS RESEA | 11                    | 12                    | 0                               | 0                                 | 0                               | 0.09                                 | 2         |
| 32926195 | ELECTROCARDIOGRAPH TECHNICIA | 10                    | 11                    | 0                               | 0                                 | 0                               | 0.10                                 | 2         |
| 68032463 | WARDROBE AND LOCKER AND DRES | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 39014244 | EMBALMERS                    | 5                     | 5                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 31511147 | CURATORS, ARCHIV., MUSEUM TE | 2                     | 3                     | 0                               | 0                                 | 0                               | 0.50                                 | 2         |
| 28102109 | JUDGES AND MAGISTRATES       | 2                     | 2                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 85799623 | ALL OTH. ELEC. AND ELEC. EQ. | 17                    | 17                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 39008241 | RADIO OPERATORS              | 6                     | 6                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 79021496 | FARM EQUIPMENT OPERATORS     | 1                     | 2                     | 0                               | 0                                 | 0                               | 1.00                                 | 2         |

LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| DES Code | Occupational Title            | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replace-ment Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|-------------------------------|-----------------------|-----------------------|---------------------------------|------------------------------------|---------------------------------|--------------------------------------|-----------|
| 68017416 | GUIDES                        | 2                     | 2                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 22308071 | LANDSCAPE ARCHITECTS          | 3                     | 3                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 85914620 | CAMERA AND PHOTOGRAPHIC EQUI  | 1                     | 1                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 68008413 | MANICURISTS                   | 3                     | 3                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 43008259 | SALES AGENTS, REAL ESTATE     | 6                     | 7                     | 0                               | 0                                  | 0                               | 0.17                                 | 2         |
| 25108231 | COMPUTER PROGRAMMER AIDES     | 30                    | 31                    | 0                               | 0                                  | 0                               | 0.03                                 | 2         |
| 89599657 | ALL OTHER PREC. TEXT., APP.,  | 0                     | 1                     | 0                               | 0                                  | 0                               | *****                                | 2         |
| 85126542 | REFRACTORY MAT. REPAIRERS, E  | 1                     | 1                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 57111292 | TELEGRAPH AND TELETYPE OPERA  | 2                     | 2                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 85938612 | MOBILE HOME REPAIRERS         | 5                     | 5                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 22508214 | INDUSTRIAL ENGINEERING TECHN  | 8                     | 8                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 97899889 | ALL OTHER TRANSPORTATION AND  | 25                    | 26                    | 0                               | 0                                  | 0                               | 0.04                                 | 2         |
| 5,105290 | DIRECTORY ASSISTANCE OPERATO  | 1                     | 1                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 67011459 | ELEVATOR OPERATORS            | 1                     | 2                     | 0                               | 0                                  | 0                               | 1.00                                 | 2         |
| 31111:22 | LECTURERS                     | 2                     | 2                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 34026180 | CAMERA OPERATORS, TELEVISION  | 8                     | 8                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 53505371 | INVESTIGATORS, CLERICAL       | 1                     | 1                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 53117353 | CREDIT CHECKERS               | 14                    | 14                    | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 53908334 | ADVERTISING CLERKS            | 12                    | 12                    | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 63002435 | FIRE INSPECTORS               | 4                     | 4                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 53108299 | TRANSIT CLERKS                | 17                    | 18                    | 0                               | 0                                  | 0                               | 0.06                                 | 2         |
| 87114519 | LATHERS                       | 1                     | 1                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 63023444 | BAILIFFS                      | 2                     | 2                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 24111089 | GEOLOGISTS, GEOPHYSICISTS, A  | 1                     | 1                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 87602513 | CARPET INSTALLERS             | 10                    | 10                    | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 87308523 | HARD TILE SETTERS             | 4                     | 4                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 87605538 | FLOOR LAYERS, EXC. CARPET, W  | 1                     | 1                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 24108090 | METEOROLOGISTS                | 1                     | 1                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 85308594 | MOTORCYCLE REPAIRERS          | 11                    | 11                    | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 61002433 | FIRE FIGHTING AND PREVENTION  | 15                    | 16                    | 0                               | 0                                  | 0                               | 0.07                                 | 2         |
| 24308079 | BIOLOGICAL SCIENTISTS         | 20                    | 20                    | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 27199098 | ALL OTHER SOCIAL SCIENTISTS   | 8                     | 8                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 53708285 | LICENSE CLERKS                | 12                    | 12                    | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 31204124 | CHEMISTRY TEACHERS            | 11                    | 11                    | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 87111518 | TAPERS                        | 7                     | 7                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 87305509 | STONE MASONS                  | 1                     | 1                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 24311081 | MEDICAL SCIENTISTS            | 4                     | 4                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 34005189 | TECHNICAL WRITERS             | 5                     | 5                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 22123065 | AGRICULTURAL ENGINEERS        | 12                    | 12                    | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 25111240 | PROGRAMMERS, NUMERICAL, TOOL  | 3                     | 3                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 22114053 | CHEMICAL ENGINEERS            | 10                    | 10                    | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 89921675 | DEXITAL LAB TECHNICIANS, PREC | 18                    | 19                    | 0                               | 0                                  | 0                               | 0.06                                 | 2         |
| 10120000 | VETERINARY ASSISTANTS         | 9                     | 10                    | 0                               | 0                                  | 0                               | 0.11                                 | 2         |
| 87817521 | FENCE ERECTORS                | 3                     | 3                     | 0                               | 0                                  | 0                               | 0.00                                 | 2         |
| 34044175 | MERCHANDISE DISPLAYERS AND W  | 14                    | 15                    | 0                               | 0                                  | 0                               | 0.07                                 | 2         |



LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| OES Code | Occupational Title            | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|-------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 27105097 | URBAN AND REGIONAL PLANNERS   | 14                    | 15                    | 0                               | 0                                 | 0                               | 0.07                                 | 2         |
| 90040499 | SPRAYERS & APPLICATORS        | 10                    | 11                    | 0                               | 0                                 | 0                               | 0.10                                 | 2         |
| 55317368 | CORRESPONDENCE CLERKS         | 19                    | 19                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 22199064 | ALL OTHER ENGINEERS           | 16                    | 16                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 31508146 | AUDIO-VISUAL SPECIALISTS      | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89114660 | PATTERN AND MODEL MAKERS, ME  | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 87511533 | SEPTIC TANK SERVICERS AND SE  | 8                     | 9                     | 0                               | 0                                 | 0                               | 0.12                                 | 2         |
| 85311564 | SIGNAL OR TRACK SWITCH MAINT  | 6                     | 6                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 24399082 | ALL OTHER LIFE SCIENTISTS     | 22                    | 23                    | 0                               | 0                                 | 0                               | 0.05                                 | 2         |
| 34058172 | ATHLETES, COACHES, UMPIRES,   | 15                    | 16                    | 0                               | 0                                 | 0                               | 0.07                                 | 2         |
| 85505562 | FRAME WIRERS, CENTRAL OFFICE  | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89302664 | PATTERN AND MODEL MAKERS, MO  | 12                    | 12                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 73008494 | LOG HANDLING EQUIPMENT OPERA  | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 85705968 | DATA PROCESSING EQUIPMENT RE  | 11                    | 11                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 87114663 | FURNITURE FINISHERS           | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 25315045 | FINANCIAL ANALYSTS, STATISTI  | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 85326589 | AIRCRAFT ENGINE SPECIALISTS   | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 32914204 | NUCLEAR MEDICINE TECHNOLOGIS  | 5                     | 6                     | 0                               | 0                                 | 0                               | 0.20                                 | 2         |
| 27102094 | ECONOMISTS                    | 11                    | 12                    | 0                               | 0                                 | 0                               | 0.09                                 | 2         |
| 31212128 | HEALTH SPECIALTIES TEACHERS   | 11                    | 11                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 63026449 | U.S. MARSHALLS                | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 85323590 | AIRCRAFT MECHANICS            | 18                    | 18                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 58011329 | TRANSPORTATION AGENTS         | 9                     | 9                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 34032250 | FILM EDITORS                  | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89708649 | LITHOGRAPHY AND PHOTOENGRAVI  | 6                     | 6                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 80002843 | SUPERVISORS, NURSERY WORKERS  | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 22517219 | ESTIMATORS AND DRAFTERS, UTI  | 8                     | 8                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 66021403 | OCCUPATIONAL THERAPY ASSISTAN | 6                     | 6                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 90000499 | HUNTERS & TRAPPERS            | 0                     | 1                     | 0                               | 0                                 | 0                               | *****                                | 2         |
| 85951601 | BICYCLE REPAIRERS             | 6                     | 6                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 85113579 | MACHINERY MAINTENANCE MECHAN  | 9                     | 9                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89902677 | FOUNDRY MOLD AND CORE MAKERS  | 7                     | 7                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 85726574 | STATION INSTALLERS AND REPAIR | 12                    | 12                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92545736 | PHOTOENG. & LITHOGR. MACH. O  | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89911676 | DETAIL DESIGN DECORATORS AND  | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92546728 | BINDERY MACHINE OPERATORS     | 14                    | 14                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89917684 | OPTICAL GOODS WORKERS, PRECI  | 5                     | 5                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92549742 | ALL OTH. PRINT., BIND., AND   | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89923683 | MEDICAL APPLIANCE MAKERS      | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92702754 | TEXTILE MACHINE SETTERS AND   | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 53802313 | TRAVEL CLERKS                 | 7                     | 8                     | 0                               | 0                                 | 0                               | 0.14                                 | 2         |
| 39005246 | TRAFFIC TECHNICIANS           | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 90000474 | HORT SPECIALTY FARMERS        | 2                     | 2                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 32311168 | CORRECTIVE AND MANUAL ARTS T  | 6                     | 7                     | 0                               | 0                                 | 0                               | 0.17                                 | 2         |
| 98323899 | HELPERS, EXTRACTIVE WORKERS   | 2                     | 2                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |

LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| DES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 92714751 | TEXT, BLEACHING AND DYEING M | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 90000484 | NURSERY WORKERS              | 5                     | 5                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 90040400 | IRRIGATION INSTALLERS        | 2                     | 2                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97802876 | BRIDGE, LOCK, AND LIGHTHOUSE | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 53128333 | BROKERAGE CLERKS             | 12                    | 12                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93953818 | GRINDING AND POLISHING WORKE | 18                    | 18                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 56005298 | DUPLICATING MACHINE OPERATOR | 17                    | 19                    | 0                               | 0                                 | 0                               | 0.12                                 | 2         |
| 95005829 | GAS PLANT OPERATORS          | 2                     | 2                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97905873 | TANK CAR AND TRUCK LOADERS   | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91102702 | SAWING MACH. TOOL SET. & SET | 10                    | 10                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93947808 | PAINTING, COATING, AND DECOR | 9                     | 9                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93944807 | MOLDERS AND CASTERS, HAND    | 16                    | 16                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91308703 | SHEAR MACH. SET. AND SET-UP  | 14                    | 14                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91111698 | MILLING MACH. SET. AND SET-U | 10                    | 10                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91314701 | ROLLING MACH. SET. AND SET-U | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 61005438 | POLICE AND DETECTIVE SUPERVI | 34                    | 35                    | 0                               | 0                                 | 0                               | 0.03                                 | 2         |
| 57199293 | ALL OTHER COMMUNICATIONS EQU | 7                     | 7                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97702834 | AIRCRAFT PILOTS AND FLIGHT E | 13                    | 13                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91508688 | COMB. MACH. TOOL OP. AND TEN | 18                    | 18                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 56021356 | DATA KEYERS, COMPOSING       | 11                    | 11                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93917819 | SOLDERERS AND BRAZERS        | 14                    | 14                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91708707 | SOLDER. AND BRAZ. MACH. SETT | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92905773 | MOTION PICTURE PROJECTIONIST | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93926801 | CUTTERS AND TRIMMERS, HAND   | 11                    | 11                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91902723 | PLAS. MOLDING MACH. SETTERS  | 9                     | 9                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91911718 | METAL MOLDING MACH. OPERATOR | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93922809 | PORTABLE MACHINE CUTTERS     | 10                    | 10                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93921810 | PRESSERS, HAND               | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91921711 | ELEC. PLAT. MACH. OPER. & TE | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 21502032 | CLAIMS TAKERS, UNEMPLOYMENT  | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91926720 | NONEL. PLAT. MACH. OPER. & T | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92911781 | TIRE BUILDING MACHINE OPERAT | 10                    | 10                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91932717 | HEAT TREATING MACH. OPER. &  | 5                     | 5                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 22102052 | AERONAUTICAL AND ASTRONAUTIC | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91938715 | HEATERS, METAL AND PLASTIC   | 2                     | 2                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97517856 | ORDINARY SEAMEN AND MARINE O | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92198726 | ALL OTH. NET. & PLAS. MACH.  | 20                    | 20                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 87105514 | CEIL. TILE INSTALLERS AND AC | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92305756 | HEAD SAWYERS                 | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92923772 | FURNACE, KILN, OR KETTLE OPE | 6                     | 6                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92311760 | WOODWORKING MACH. SETTERS AN | 7                     | 7                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 53911360 | PROOFREADERS AND COPY MARKER | 6                     | 6                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92956763 | CEMENT. AND GLUING MACH. OPE | 10                    | 10                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92308757 | SAWING MACHINE OPERATORS AND | 5                     | 5                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97399888 | ALL OTHER RAIL VEH. OPERATIV | 16                    | 16                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |



LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

Source: Iowa Occupational Information Network

| DES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 97311846 | LOCOMOTIVE FIRERS            | 2                     | 2                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97953885 | PUMP OPERATORS               | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92519734 | ALL OTH. PRINT. PRESS SETTER | 7                     | 7                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92522741 | SPEC. MAT. PRINTING MACH. SE | 6                     | 6                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93111793 | ELECTROMECHANICAL EQUIP. ASS | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92525729 | BINDERY MACHINE SETTERS AND  | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97941866 | CRIST AND WINCH OPERATORS    | 5                     | 5                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93908800 | COIL WINDERS, TAPERS, AND FI | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97914883 | MAIN LINE STATION ENGINEERS  | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97921880 | GAS COMPRESSOR OPERATORS     | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97928878 | DREDGE OPERATORS AND DIPPER  | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 95028825 | POWER DISTRIBUTORS AND DISPA | 17                    | 17                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91905722 | PLASTIC MOLDING MACH. OPERAT | 34                    | 34                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91311692 | EXT. & DRAW. MACH. SET. AND  | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91923721 | NONEL. PLAT. MACH. SET. & SE | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93932816 | CARPET CUTTERS, DIAGRAMMERS, | 2                     | 2                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91935714 | FURNACE OPERATORS AND TENDER | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91917712 | ELEC. PLAT. MACH. SET. & SET | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92302758 | SAWING MACHINE SETTERS AND S | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91928716 | HEAT. EQUIP. SET. & SET-UP O | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93114792 | ELECTRICAL AND ELECTRONIC EQ | 9                     | 9                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92197725 | ALL OTH. MET./PLAS. MACH. SE | 17                    | 17                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97302848 | RAILROAD CONDUCTORS AND YARD | 13                    | 13                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92515731 | LETTERPRESS SETTERS AND SET- | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93108794 | FITTERS. STRUCTURAL METAL, P | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92524738 | SCREEN PRINT. MACH. SETTERS  | 7                     | 7                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97308849 | RAIL YARD ENGINEERS, DINKEY  | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 15021020 | MIN., QUARRY., AND OIL AND G | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97926877 | DRAGLINE OPERATORS           | 2                     | 2                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93905802 | ELECTRICAL AND ELECTRONIC AS | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92997785 | ALL OTHER MACHINE SETTERS AN | 18                    | 18                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89905678 | MOLDERS/SHAPERS, EIC. JEWEL  | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97305845 | LOCOMOTIVE ENGINEERS         | 9                     | 9                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92753775 | PAINTING MACHINE OPERATORS A | 21                    | 21                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92314759 | WOODWORKING MACHINE OPERATOR | 16                    | 15                    | 0                               | 0                                 | 0                               | -0.06                                | 2         |
| 92521737 | PHOTOENGRAVING AND LITHOGRAP | 8                     | 8                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93105795 | MACH. BUILDERS AND OTH. PREC | 23                    | 22                    | 0                               | 0                                 | 0                               | -0.04                                | 2         |
| 93197797 | ALL OTHER PRECISION ASSEMBLE | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89908679 | PATTERNMAKERS, MODEL MAKERS, | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92510735 | PRINTING PRESS MACH. SETTER  | 11                    | 11                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 93911803 | GLAZIERS, MANUFACTURING      | 5                     | 5                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 97317847 | RAILROAD BRAKE, SIGNAL, AND  | 22                    | 22                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92968787 | EXTRUDING AND FORMING MACH.  | 17                    | 16                    | 0                               | 0                                 | 0                               | -0.06                                | 2         |
| 98314895 | HELPERS. PAINTERS, PAPERHANG | 11                    | 10                    | 0                               | 0                                 | 0                               | -0.09                                | 2         |
| 89999651 | ALL OTHER PRECISION FOOD AND | 6                     | 5                     | 0                               | 0                                 | 0                               | -0.17                                | 2         |

LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

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| OES Code | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|----------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 85956611 | MENDERS, GARMENTS, LINENS, A | 8                     | 10                    | 0                               | 0                                 | 0                               | 0.25                                 | 2         |
| 93902804 | MACHINE ASSEMBLERS           | 23                    | 22                    | 0                               | 0                                 | 0                               | -0.04                                | 2         |
| 87902554 | EARTH DRILLERS, EXC. OIL AND | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 87702506 | AIR HAMMER OPERATORS         | 14                    | 13                    | 0                               | 0                                 | 0                               | -0.07                                | 2         |
| 92941786 | CUTTING AND SLICING MACH. SE | 10                    | 9                     | 0                               | 0                                 | 0                               | -0.10                                | 2         |
| 31202129 | LIFE SCIENCE TEACHERS        | 43                    | 45                    | 0                               | 0                                 | 0                               | 0.05                                 | 2         |
| 91908719 | MET. HOLDING MACH. SETTERS A | 3                     | 2                     | 0                               | 0                                 | 0                               | -0.33                                | 2         |
| 85317598 | RAIL CAR REPAIRERS           | 6                     | 6                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 55326325 | PROCUREMENT CLERKS           | 15                    | 14                    | 0                               | 0                                 | 0                               | -0.07                                | 2         |
| 34056182 | PRODUCERS, DIRECTORS, ACTORS | 7                     | 7                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 24105088 | CHEMISTS                     | 21                    | 20                    | 0                               | 0                                 | 0                               | -0.05                                | 2         |
| 87317529 | PLASTERERS                   | 5                     | 4                     | 0                               | 0                                 | 0                               | -0.20                                | 2         |
| 91305699 | PRESS MACH. SET. AND SET-UP  | 19                    | 18                    | 0                               | 0                                 | 0                               | -0.05                                | 2         |
| 91302700 | PUNCH. MACH. SET. AND SET-UP | 17                    | 16                    | 0                               | 0                                 | 0                               | -0.06                                | 2         |
| 89117638 | LAYOUT WORKERS, METAL, PRECI | 7                     | 7                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 91114694 | GRINDING MACH. SET. AND SET- | 19                    | 18                    | 0                               | 0                                 | 0                               | -0.05                                | 2         |
| 91108691 | DRILL. MACH. TOOL SET. AND S | 26                    | 25                    | 0                               | 0                                 | 0                               | -0.04                                | 2         |
| 85932621 | ELEVATOR INSTALLERS AND REPA | 6                     | 5                     | 0                               | 0                                 | 0                               | -0.17                                | 2         |
| 21505035 | SPECIAL AGENTS, INSURANCE    | 15                    | 17                    | 0                               | 0                                 | 0                               | 0.13                                 | 2         |
| 89123637 | JEWELERS AND SILVERSMITHS    | 12                    | 12                    | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 85728569 | ELECTRICAL INSTALLERS AND RE | 13                    | 12                    | 0                               | 0                                 | 0                               | -0.08                                | 2         |
| 98319898 | HELPERS, ALL OTHER CONSTRUCT | 11                    | 10                    | 0                               | 0                                 | 0                               | -0.09                                | 2         |
| 25313084 | ACTUARIES                    | 4                     | 4                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 34035171 | ARTISTS AND COMMERCIAL ARTIS | 19                    | 20                    | 0                               | 0                                 | 0                               | 0.05                                 | 2         |
| 89399666 | ALL OTHER PRECISION WOODWORK | 3                     | 2                     | 0                               | 0                                 | 0                               | -0.33                                | 2         |
| 87314535 | REINFORCING METAL WORKERS    | 4                     | 3                     | 0                               | 0                                 | 0                               | -0.25                                | 2         |
| 72002469 | FIRST LINE SUPERVISORS, AGRI | 16                    | 15                    | 0                               | 0                                 | 0                               | -0.06                                | 2         |
| 67008378 | PEST CONTROLLERS AND ASSISTA | 14                    | 16                    | 0                               | 0                                 | 0                               | 0.14                                 | 2         |
| 89199644 | ALL OTHER PRECISION METAL WO | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89135633 | BOILERMAKERS                 | 7                     | 7                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 32923196 | ELECTROENCEPHALOGRAPH TECHN  | 5                     | 6                     | 0                               | 0                                 | 0                               | 0.20                                 | 2         |
| 92928784 | COOLING AND FREEZ. EQUIP. OP | 14                    | 12                    | 0                               | 0                                 | 0                               | -0.14                                | 2         |
| 85702575 | TEL. AND CABLE TV LINE INSTA | 46                    | 44                    | 0                               | 0                                 | 0                               | -0.04                                | 2         |
| 92917766 | COOKING MACH. OPER. AND TEND | 23                    | 21                    | 0                               | 0                                 | 0                               | -0.09                                | 2         |
| 22511215 | MECHANICAL ENGINEERING TECHN | 16                    | 18                    | 0                               | 0                                 | 0                               | 0.12                                 | 2         |
| 91505689 | COMB. MACH. TOOL SET. AND SE | 19                    | 17                    | 0                               | 0                                 | 0                               | -0.11                                | 2         |
| 87108517 | DRYWALL INSTALLERS           | 23                    | 21                    | 0                               | 0                                 | 0                               | -0.09                                | 2         |
| 87805543 | SHEET METAL DUCT INSTALLERS  | 16                    | 14                    | 0                               | 0                                 | 0                               | -0.12                                | 2         |
| 92958783 | CLEANING AND PICKLING EQUIP. | 39                    | 36                    | -1                              | 1                                 | 0                               | -2.56                                | 2         |
| 83002669 | INSPECTORS, TESTERS, AND GRA | 37                    | 35                    | 0                               | 0                                 | 0                               | -0.05                                | 2         |
| 85123586 | MILLWRIGHTS                  | 32                    | 29                    | -1                              | 1                                 | 0                               | -3.12                                | 2         |
| 92971771 | EXTRUDING AND FORMING MACH.  | 41                    | 38                    | -1                              | 1                                 | 0                               | -2.44                                | 2         |
| 92944766 | CUTTING AND SLICING MACH. OP | 59                    | 56                    | -1                              | 1                                 | 0                               | -1.69                                | 2         |
| 89914680 | PHOTOGRAPHIC PROCESS WORKERS | 4                     | 6                     | 0                               | 0                                 | 0                               | 0.50                                 | 2         |
| 92951783 | PAINTING MACH. SETTERS AND S | 13                    | 11                    | 0                               | 0                                 | 0                               | -0.15                                | 2         |

LISTING OF OCCUPATIONS IN MERGED AREA COMMUNITY COLLEGE 12  
Total Openings (growth + replacement)  
1988 - 1992

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| DES Code      | Occupational Title           | Employment Level 1988 | Employment Level 1992 | Average Change 1988-92 (+ or -) | Average Replacement Needs 1988-92 | Average Annual Openings 1988-92 | Ave. Annual Percent Change 1988-1992 | Area-type |
|---------------|------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------------|---------------------------------|--------------------------------------|-----------|
| 97951863      | CONVEYOR OPERATORS AND TENDE | 41                    | 38                    | -1                              | 1                                 | 0                               | -2.44                                | 2         |
| 22514218      | DRAFTERS                     | 88                    | 86                    | 0                               | 0                                 | 0                               | -0.02                                | 2         |
| 97923879      | EXCAVATING AND LOADING MACHI | 35                    | 32                    | -1                              | 1                                 | 0                               | -2.86                                | 2         |
| 34047177      | MUSIC DIR., SINGERS, COMPOSE | 1                     | 1                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 63028440      | CRIMINAL INVESTIGATORS, FEDE | 3                     | 3                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 89132641      | SHEET METAL WORKERS          | 54                    | 50                    | -1                              | 1                                 | 0                               | -1.85                                | 2         |
| 31226125      | COMPUTER SCIENCE TEACHERS    | 8                     | 8                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 63011441      | POLICE DETECTIVES            | 13                    | 15                    | 0                               | 0                                 | 0                               | 0.15                                 | 2         |
| 21902030      | COST ESTIMATORS              | 77                    | 73                    | -1                              | 1                                 | 0                               | -1.30                                | 2         |
| 98311892      | HELPERS, BRICK AND STONE MAS | 43                    | 39                    | -1                              | 1                                 | 0                               | -2.33                                | 2         |
| 22521074      | SURVEYING AND MAPPING TECHNI | 24                    | 26                    | 0                               | 0                                 | 0                               | 0.08                                 | 2         |
| 87302508      | BRICK MASONS                 | 42                    | 37                    | -1                              | 1                                 | 0                               | -2.38                                | 2         |
| 87311515      | CONCRETE AND TERRAZZO FINISH | 59                    | 54                    | -1                              | 1                                 | 0                               | -1.69                                | 2         |
| 89705651      | JOB PRINTERS                 | 7                     | 7                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 92932769      | DAIRY PROCESS. EQUIP. OPERAT | 71                    | 66                    | -1                              | 1                                 | 0                               | -1.41                                | 2         |
| 92947776      | PAINTERS, TRANSPORTATION EQU | 9                     | 9                     | 0                               | 0                                 | 0                               | 0.00                                 | 2         |
| 98312893      | HELPERS, CARPENTERS AND RELA | 96                    | 85                    | -3                              | 3                                 | 0                               | -3.12                                | 2         |
| 97956870      | OPERATING ENGINEERS          | 97                    | 90                    | -2                              | 2                                 | 0                               | -2.06                                | 2         |
| 32511158      | PHYSICIAN ASSISTANTS         | 23                    | 25                    | 0                               | 0                                 | 0                               | 0.09                                 | 2         |
| 32314166      | SPEECH PATHOLOGISTS AND AUDI | 31                    | 33                    | 0                               | 0                                 | 0                               | 0.06                                 | 2         |
| 81005499      | FIRST LINE SUPERVISORS, CONS | 147                   | 134                   | -3                              | 3                                 | 0                               | -2.04                                | 2         |
| 53308283      | INSURANCE EXAMINING CLERKS   | 14                    | 16                    | 0                               | 0                                 | 0                               | 0.14                                 | 2         |
| 32317164      | RECREATIONAL THERAPISTS      | 29                    | 31                    | 0                               | 0                                 | 0                               | 0.07                                 | 2         |
| 87708540      | PAVING, SURFACING, AND TAMPI | 52                    | 48                    | -1                              | 0                                 | -1                              | -1.92                                | 2         |
| 91714705      | METAL FABRICATORS, STRUCTURA | 23                    | 20                    | -1                              | 0                                 | -1                              | -4.35                                | 2         |
| 87808532      | ROOFERS                      | 62                    | 54                    | -2                              | 1                                 | -1                              | -3.23                                | 2         |
| 87802525      | INSULATION WORKERS           | 26                    | 23                    | -1                              | 0                                 | -1                              | -3.85                                | 2         |
| 93938805      | MEAT, POULTRY, AND FISH CUTT | 620                   | 583                   | -9                              | 8                                 | -1                              | -1.45                                | 2         |
| 87814536      | STRUCTURAL METAL WORKERS     | 47                    | 41                    | -2                              | 1                                 | -1                              | -4.26                                | 2         |
| *** Total *** |                              | 75221                 | 76187                 | 220                             | 2833                              | 3053                            | *****                                |           |

EXHIBIT 1

**LIST OF INTERVIEWEES**

**WESERN IOWA TECH COMMUNITY COLLEGE**

**Brenda Porter  
Cal Brinkerhoff  
Nick Zarcos  
Dr. Gratia Gilbert  
Dr. Robert Rice  
Mr. Bill Walker  
Mr. Gary Swaney**

**DES MOINES**

**Iowa Department of Education**

**Dr. JoAnn Horton, Administrator  
Division of Community Colleges**

**Maryellen Knowles, Asst. Chief  
Bureau of Instruction and Curriculum**

**other brief discussions with IDE personnel**

**OTHER**

**Mike Waters, Labor Coordinator  
Central Iowa Construction**

**Allan Moore  
Iowa State Occupational Informational Coordinator**

**SIoux CITY**

**Don "Skip" Meisner, Executive Director  
SIMPCO  
Sioux City, Iowa 51102**

**David O. Biorn, President  
St. Luke's Regional Medical Center  
2720 Stone Park Blvd.  
Sioux City, IA 51104**

EXHIBIT 1 (continued)

**Barry Backhaus**  
**President and C.E.O.**  
**First Federal Savings and Loan Assn.**  
**329 Pierce Street**  
**P.O. Box 897**  
**Sioux City, IA 51102**

**Michael V. Groff, Director of Staffing**  
**Iowa Beef Processors, Inc.**  
**Dakota City, NE 68731**

**LaNora P. Krenc**  
**Siouxland Labor-Management Committee**  
**P.O. Box 3595**  
**Sioux City, IA 51102**

**Glenn Ivarsen**  
**401 Douglas Street**  
**Sioux City, IA 51101**

**Roland Junck**  
**Prince Manufacturing Corporation**  
**4600 S. Lewis Blvd.**  
**Sioux City, IA 51106**

**Ed Vanderberg**  
**Gateway 2000**  
**610 Gateway Rd.**  
**N. Sioux City, S.D.**

**David Anderson**  
**Chamber of Commerce**  
**Economic Development**  
**101 Pierce Street**  
**Sioux City, IA 51102**

EXHIBIT 2

MAJOR EMPLOYERS

OCTOBER 1989

Over 1000 Employees

City of Sioux City  
IBP, inc.  
Marian Health Center  
Pioneer, TeleTechnologies - 1900 tele communications  
St. Lukes Regional Medical Center  
Sioux City Community School District  
185th Tactical Fighter Group, Iowa Air National Guard

501 - 1000 Employees

Aalfs Manufacturing Company  
John Morrell & Company  
Midwest Energy; IPS Electric, Midwest Gas  
Terra International

251 - 500 Employees

Dakota Pork Industries  
Hy-Vee Food Stores  
Interbake Foods, Inc.  
Metz Baking Company  
AC Rochester  
Security National Bank  
Shopko Department Stores  
Sioux Tools, Inc.  
Sunshine Food Markets  
U.S. West Communications  
Wal-Mart  
Western Iowa Tech Community College  
Wilson Trailer Company  
Woodbury County

101 - 250 Employees

American Pop Corn Company  
Blue Cross of Western Iowa and South Dakota  
Briar Cliff College  
Burlington Northern Railroad  
Cargill, Inc.  
Chesterman Company  
Direct Transit

First National Bank  
Gateway 2000  
Hilton Inn  
Irving F. Jensen Company, Inc.  
JC Penney Company, Inc.  
Joe Morten Insurance Company  
K Mart Discount Store  
Kind & Knox Gelatin  
L & R Communications  
Marina Inn  
Morningside College  
Norwest Bank  
Pak Fabricators, Ltd.  
Penncorp Financial Company, Inc.  
Prince Manufacturing Company  
Schaeff/NAMCO  
Sears Roebuck and Company  
Sioux City Foundry Company  
The Sioux City Journal  
Sioux Honey Association  
Sodrac Park (seasonal)  
Stone Container Corp.  
Target Stores  
W.A. Klintner, Inc.  
Wall Street Mission/Goodwill Industries  
Weller Plastics

51 - 100 Employees

AG Processing, Inc.  
American Equipment Corp.  
Bear Graphics  
Boulevard Food Store  
Broyhill Company  
Brower Construction Company  
Cargo, Inc.  
Central United Life Insurance Company  
Chicago Northwester Transportation Company  
Cloverleaf Cold Storage  
Comnet 2000  
Co.: Agra  
Container Corporation of America  
Dura-Pak Corporation  
Fareway Stores  
First Federal Savings & Loan Association  
The Gerkin Company  
Grandview Health Resources  
Hart Beverage Company  
Chris Hansen Construction Company, Inc.  
Heartland Foods



EXHIBIT 2 (continued)

Hirschbach Motor Lines, Inc.  
Hoak Motors, Inc.  
Holiday Inn of Sioux City  
Holtze Construction Company  
Iowa Pork Industry, Inc.  
KCAU-TV Channel 9  
KTIV-TV Channel 4  
Knoepfler Chevrolet Company  
L & L Builders Company  
McCracken Concrete Pipe Machinery Company  
New York Life Insurance Company  
Nutra-Flo Chemical Company  
Purina Mills, Inc.  
Rocklin Manufacturing Company/Remedy, Inc.  
Sioux Gateway Airport  
Sioux Laundry  
Sioux City Brick & Tile Company  
Sioux City Stationery Company  
Siouxland Quality Meats  
State Steel Supply  
TBJ Contractors Corp.  
Team Ford Company  
Tri-Land Foods  
Van Buskirk Construction Company (seasonal)  
Walgreens Drug Stores  
Williams Appliance and Television Stores  
Younkers  
Charlie Zook Motors

## **COMMUNITY ECONOMIC DEVELOPMENT PROJECTS**

### **Siouxland Initiative**

The aggressive activity of local businesses to import new and enhance existing employers has targeted small industrial and manufacturing firms (very limited growth projected), electrical assembly operations, insurance services, credit card/financial services, health care, and food processing operations. This project is known as the "Siouxland Initiative."

The Siouxland Initiative proposes a plan with clear objectives, dates, and a coordinated effort on behalf of the community to make growth in the area a reality. It strikes the project team as a reasonable plan with its goals based on a diversification of employment opportunities in the area as well as increased capital investments. Its elements include:

- Expansion and Retention of Existing Business
- New Business Attraction
- Small Business Development
- Community Image Enhancement

It would seem appropriate for WITCC to explore cooperative opportunities with the Siouxland Initiative particularly with regard to a program that visibly enhances small business development and by actively supporting efforts to help improve the image of the community. This would give the added community presence to WITCC and would be a good initial step in the development of "cooperative co-option."

### **Dakota Dunes Project**

The 216-acre business park, a project of Midwest Energy Company, is being marketed as a total planned community and seeks to attract high tech manufacturers and research facilities, bringing with it a core of technical and professional salaried individuals. To the extent this project succeeds, the entire area will benefit not only through increased payroll of professional level salaries, but also through construction of plants, homes, recreational facilities and service businesses. While WITCC would be little involved in this project in terms of training these workers, there are a variety of ways in which it may benefit from the "spin off" employment and other opportunities associated with the implementation of the project. Certainly, it would add a potential of faculty for new courses, as well as a constituency of support for college initiatives.

## **Other Business Recruitment Development Efforts**

Under active recruitment by interested parties in the area are several insurance firms and a credit card company. This would suggest a need for effectively trained business/office individuals. In this regard, broadly based general education, math, and arts and sciences backgrounds would be indicated as would support for enhanced technical, computer, data entry, and clerical skills. Communication, both written and verbal, would be needed at levels higher than seems generally available in the existing labor market. Also needed are data processing, marketing, telecommunications, office management, and fiber optics manufacturing skills, as well as more actuarial assistants, and computer operators, should these efforts be successful. Also there seems to be a growing base of telemarketing firms in the area. Network Communications, Inc., a new company in the area, intends to expand its workforce to 300 in the near future. Gateway 2000, a computer assembly firm, markets itself strictly through telemarketing routes. These activities suggest at least some improvement in the labor market, pending the fruition of current planning.

## **GENERAL EMPLOYMENT/INDUSTRIAL TRENDS**

Underemployment characterizes the region. Further, it appears that many of the more highly skilled workers required for many of the projected new jobs will have to be recruited from outside the immediate region. Iowa exports most of its baccalaureate-level graduates to other states, creating a rather serious "brain drain" in most areas, Sioux City included. Moreover, the decade-old economic stagnation has caused the emigration of some of its previously employed college-trained workforce. There does not appear to be a substantial number of professionally trained individuals unemployed in the region, no available "pool" equal to the skills of the jobs that will be created if current plans are realized. However, in addition to employing high skilled technical workers, the community initiatives, if successful, could employ a large number of the currently underemployed, less skilled workers in construction and the service industries. Thus, some improvement in the employment picture remains a possibility.

Community economic developers hope that these efforts will ultimately create an important regional business hub, since Omaha, Lincoln, Des Moines, Sioux Falls, Kansas City, and Minneapolis are within a 300 mile radius. The size and experience of the Midwest Energy Company backing the Dakota Dunes project, for example, indicate that there may be at least some substance to this hope.

### **Medical Sector Employment**

The medical industry in the area is dominated by two large full-service medical facilities which have little or no competition in the geographic area. These two medical centers (St. Luke's and Marion) are specialized according to comparative advantage. Initially, this will involve in-house training programs in nursing. The duopoly will soon specialize in particular medical treatment and other services. There is no planned expansion of St. Luke's facility. Local sources indicate that the hospitals do not intend to significantly increase the supply of medical services personnel. Therefore, the expected increase in demand by area residents for medical services will be provided by a more efficient use of about the same number of medical staff. Job descriptions have been rewritten to accommodate increased responsibilities and workloads.

There also exists a growing trend to locate the provision of medical services, out of the medical facility and into the home, doctor's office, and on to social welfare program providers and other personnel not paid by the medical centers. This will create a new level of medical service providers. At present, no trained labor pool exists to satisfy the prospective increased demand for off-site medical services. Growth in medical sector employment, then, will tend to be in these areas.

As a result of the airline tragedy in 1989, Sioux City's medical industry has emerged as a leader in medical emergency and trauma training. This has led and may continue to lead to new educational programs offered by the local medical centers as well as a spill over to WITCC for increased emergency medical technician training, or other health-related occupations. WITCC should investigate more extensive cooperation with the local

centers in order to better utilize new training opportunities in the area. It is clear from the demographic picture that Sioux City is the center of provision of medical services in the region, at least in terms of the six counties which WITCC officially serves. It is also likely that the educational/medical community will be receiving increased pressure to provide leadership in gerontological services as the population ages.

### **Agricultural Sector Employment**

Given the agrarian base and the existing food processing firms, any new agricultural based firms are expected to emphasize the packaging process in areas such as beef by-products, packaging in consumer packages, frozen foods, canned products, dog food, etc. The workforce requirements, in addition to clerical, office, and computer technology skills, would in this case, include meat cutters, assembly workers, transportation workers of all kinds, marketers, sales persons, etc.

Implicitly, however, any foreseen increases in agricultural sector employment in the future will in no way match the losses that have occurred or will yet occur. The net change will be a continued clear deemphasis of agriculture and its attendant industries insofar as employment is concerned.

### **Service Sector Employment**

While growth is expected within the service industry, they tend to be at the higher end of the service industry scale and indicate a need for better than elementary skills in communication and arts and sciences. The response by business people interviewed by the project team seems to reflect a need for employees to understand the impacts of their behavior, the importance of quality communication, and team-play productivity. Employers were concerned about an employee recognition of the "bottom line" of the company (i.e., the need for solid economic education) and the necessity for employers to have a skilled, thinking, and motivated work force. It is a cliché, but the fact cannot be ignored that the workplace and its products now compete in a global market. In order to compete, the work force must be prepared for this environment. WITCC can provide a substantial service to the business community by offering useful arts and sciences programs to these workers.

In its favor, Iowa is known to place a high value on education, with approximately 88 percent of students graduating from high school. But as the absolute number of high school students decline, the median age of community college students will inevitably increase. According to the Iowa Job Service, employers are more likely to reduce the labor costs of their workplace by using more part-time workers and keeping the number of full term, core employees to a minimum. This work environment puts increasing pressure on employees to maintain and increase their work skills. According to business interviews, WITCC will need to develop more programs to fit the needs of those individuals already working, and seeking to maintain existing employment as well as be aggressive in career development and planning services. The workplace of the '90's and beyond will place



increasing demands on employees to participate and aggressively take responsibility for their work careers.

Others indicated that the most valued employee will be those who possess the communication as well as the critical thinking skills necessary to change as work responsibilities change. Education will be seen as a continuing part of the career growth process, establishing a life-long relationship between the educational community and the individual. Many employers offer training programs that compete with WITCC's efforts. WITCC should investigate cooperative co-option with these employers. In some cases, WITCC may be able to provide better training at a lower cost.

Cooperative co-option would also distract WITCC from training people for jobs that no longer exist, a criticism made by one major employer of WITCC graduates. Because there is an extensive system of advisory groups for programs at WITCC, cooperative co-option and cooperative program building and redesign could put WITCC at the cutting edge of training and instruction. However, the function of these advisory groups require careful review and should include specialists from outside the geographic area.

Whether real or simply perceived, employers see little follow up by WITCC as to the quality and effectiveness of their training programs. This may or may not be a "valid" criticism in the relationship between WITCC and employers, but the perception seemed to be pervasive in parts of the business community. There was a real interest shown in having WITCC identify a specific contact individual for these concerns.

Given this view of employment issues, the following discussion will emphasize the role of education in this process.

## STATEWIDE POLICY ISSUES

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## EDUCATION AND ARTICULATION CONCERNS

### Iowa Department of Education

In general discussions with several leaders in the Iowa Department of Education (IDE) there seems to be a growing concern regarding the programs offered by community and technical institutions across the state. First, concern was expressed that community colleges need to open a dialogue internally to better coordinate their program efforts. These efforts should then lead to a plan to improve the educational effectiveness of college programs, as well as economic efficiency by eliminating program duplication. Also, state leaders are concerned about a more uniform articulation of programs between community colleges and high schools.

The pressure for this latter effort is directed from the legislature as well as from the community at large. Legislation has been implemented in an effort to put "teeth" into the process (Senate Bill 449). There are to be new state accreditation guidelines by July 1, 1992, and a required compliance date of July 1, 1993. The package apparently stresses a two track system: career options and direct transfers to senior-level institutions. There will be evaluation criteria, outcome oriented student achievement measures, and a need to document the process of student achievement.

The following are recent state-level documents that reflect the department's concern and are likely to influence the directions of community college programs in the future.

### Iowa Board of Regents Strategic Plan For Off-campus Credit Programming

This June 1990 report states as one of its essential missions the offering of programs on a statewide basis. It may be this charge through the auspices of the Regents that enables WITCC to: (1) secure appropriate resources (staff) for arts and science courses and (2) develop long term commitments and full-time staffing situations to stabilize high quality arts and sciences instruction. There is concern that some portions of the state do not receive the caliber of instruction equal to others around the state. This may cause resources to be redirected to the western portion of the state.

### Iowa College Student Aid Commission

A recent study by the Iowa College Student Aid Commission produced results regarding the employment patterns of higher education graduates. The 4-year institutions export outside of Iowa about 60 percent of their graduates. The good news for community/vocational programs is that about 86 percent remain in state. This should not be treated as a surprising statistic but instead be used as a selling point for acquiring increased state tax revenues. The Commission has developed a computerized system for tracking these graduates and may offer helpful suggestions for the improvement of such

data collection for WITCC graduates and students. This linkage may greatly reduce the expense of establishing a program.

### **Senate Bill 449**

Senate Bill 449 sets forth a very specific set of outcomes for vocational programs, particularly at the secondary level, as well as ordering an extensive program review process. Of particular note is the annual review of 20 percent of the programs in operation for accountability to state guidelines, the designated requirement of a set of core competencies and curriculum, a regional planning board, and the charge that the regional planning board will be responsible for explaining any discrepancies from the outcomes associated with programs in their region.

This seems to provide an incentive to the Iowa Department of Education and the Division of Vocational Education to begin and implement the process of standardizing and eliminating duplication of programs. At the heart of this, and from conversations with division personnel, there is a concerted effort to unify the voice and practices within the state department and a determination to standardize the offerings of vocational programs in each region of the state at both the secondary and postsecondary level. Of particular interest will be the implementation of the regional planning boards charged with coordinating the vocational offerings and core curriculum of the community colleges and from within the school districts.

### **Strengthening Community College Linkages, Iowa Department of Education, January 1990**

This document provides a set of directions to be undertaken by the Division of Community Colleges. Every community college is expected to provide a high caliber general education core to enable students to transfer experiences easily into senior institutions. It also outlines areas of accountability, program standardization, and staff/educational guidelines. It is expected that future funding and approval of programs will depend on quality assurance and accountability of programs. The state and the IDE are very interested in reducing the duplication of educational services and at the same time improving educational guidelines and quality.

### **A Challenge to Change**

This document is the final report of the Legislative Higher Education Task Force produced at the end of 1989. Again, the call is for: (1) access to higher education; (2) responsiveness on the part of institutions; (3) quality and accountability; and (4) coordination of programs, noting the need to develop articulation guidelines. The report writers recognize how difficult this process is really going to be and state the intent to continue the process over the next 10-20 years or as necessary.

## Articulation

There will be an emphasis of state regulation in the following areas:

- (1) Vocational and high school programs. An effort to standardize requirements, eliminate duplicate programs, and tailor the offerings of secondary and postsecondary institutions suggests more shuttling of students between schools.
- (2) Remediation programs. Pressure abounds for every educational institution to address this problem. What will also be needed is better-designed intake assessment procedure/processes for students identified as needing remediation.
- (3) Advanced placement programs. These will probably receive much notice, but not be widely used by students, except for those exceptional students who should be especially encouraged to move ahead in educational pursuits.
- (4) Agreements with 4-year institutions. The articulation agreement process between institutions is largely controlled by the 4-year, senior institutions. Any agreements and cooperation of instruction will enhance and improve this process, but it must be stated that the 4-year institutions appear to the study team to wield disproportionate influence in statewide educational issues. This would tend to discourage hope.

Clearly, the programmatic emphases of state government will have an impact on WITCC. As such, they can provide an important support for movement at WITCC in areas discussed in this document. In so doing, these policy-level considerations will be taken into account as specific topics emerge and recommendations provided.

## CONCLUSIONS

It is easy to advocate change from the outside because one tends to minimize the costs relative to the benefits. Yet forces within and without WITCC seem to be gathering to demand an elevation of the programs and services at the college to a higher plateau. WITCC, as an institution and as a group of professionals, has decided it wants to be part of the solution to the area's underemployment and economic problems in the region. To the extent that the community grows and prospers and payrolls and population increase, WITCC is likely to benefit.

Cooperative co-option is a means for WITCC to keep its position without yielding programs it would rather retain, while using available expertise already in place throughout the community. For example, it was clear in our interviews that the medical community plans to consolidate its training of nursing students which may limit the demand for such programs with WITCC. By cooperative co-option, it may be possible for the parties involved to specialize, e.g., arts and sciences and general nursing courses would be taught at WITCC and specialized nursing services would be taught by one of the hospitals. This arrangement could provide a higher quality education at a reduced cost to all parties. It also might be a model for instructional interface between WITCC and the larger community.

Seizing this opportunity would require WITCC to adapt to changing conditions in specific ways. It could, and perhaps should, devote more energy and personnel to serve on Chamber committees, possibly offer tours of the college to outsiders and appropriately design literature for prospective new businesses, provide ongoing seminars and course programs to support small businesses, and conduct institutionalized follow-up of student placements in area businesses including detailed follow-up surveys to employers and former students. Clearly, some of these activities are being provided today. However, much could be gained by a more sophisticated, systematic approach to these opportunities. Every effort should be made to support employers of WITCC graduates, to be responsive to their needs and concerns, as is taking place elsewhere around the country. Further, the development of long-term commitments between the institution and its graduates/students for continuing career and employment support seems obvious to the project team.

In the area of occupational programs, WITCC can no longer see itself as a totally independent entity. The State of Iowa is demanding greater accountability of state funds as well as certification of programs. To the extent that there remains the traditional conflict between the "academic" and the "vocational" portions of the schools' program, debating which program is more important to the student or school is counterproductive.

What is clear from the employer-focused interviews is the serious problem of the lack of employee skills in basic education coupled with the unrealistic expectations of job-seekers concerning earning prospects. In addition, a fundamental and structural change in the local labor market is taking place. The output of every worker in Siouland competes with other products by other workers in a global marketplace. It is the cold economic reality that if the value of their output and products is not higher than the wages



paid for that factor of production, individuals will eventually lose jobs. Further, if a company cannot compete, it will not remain in business. Recent evidence shows that people are not going to work at the same job for a lifetime. In fact, they are likely not only to change jobs every 3-5 years, but they will find themselves doing substantially different tasks than they previously performed. These "career" changes are likely to occur a number of times in a work life. Lengthy preparation for a highly specialized, unique, nontransferable skill will be wasted money for the state and taxpayers, and be a prohibitive opportunity cost to the student.

Present dissatisfaction on behalf of employers is focused on the lack of basic skills, the inability of individuals to solve problems or generalize upon their educational knowledge. Those that can read need to read better. Those that can solve basic math problems need to be able to develop a more sophisticated numeracy. Those that can input data to computers need to be able to identify more effective and efficient ways to manage it. Minimal literacy is no longer a sufficient condition to remain employed at a living wage in a global economy. Most educational institutions are going to be called on to not only remediate individuals but institute programs to raise the general ability levels in employees on a recurring basis. In terms of responsibility, a community college's task will be the entire community in this area. As yet, there are few programs available to approach this responsibility, but it is likely that the new guidelines being formulated by the IDE will begin to push this frontier.

It would be a mistake to conclude that a complete restructuring at WITCC is needed. Some programs have rigid certification requirements and some programs continue to offer appropriately prepared employees to the marketplace. The timely appearance of the Title III grant is a giant step in the right direction. Applause is offered to the efforts necessary to obtain a Title III grant and the development of community leadership from within WITCC. The task is enormous but bodes well for the future. The philosophical orientation of the college seems to be right on target for addressing many problems. Indeed, the future environment in which educational agencies will operate, both in Iowa and around the world, will be significantly different than in the past. Institutions that seize the opportunity, building support within and without, will survive. And that seems to be the bottom line, whether to survive the transformation and thrive or slip into a footnote in the larger community and educational arena. WITCC is positioned to go in either direction, depending on its choices and its actions.

Generally, the business community seemed to feel that WITCC is a substantial asset and marketing tool for the community at large, but needs to improve its public image. It was also underscored that the general level of education available in the work force represents a crisis for employers. Yet, there was cautious optimism for the future of the Siouxland economy. Finally, most individuals were very impressed that WITCC is engaged in a process of self-study and attempts to increase its profile in the community. This in itself will serve to improve the image of the college in the community.

Given this framework, the project moved forward into specific issue areas defined in the project goals. Progress in each area will be reviewed, followed by a set of recommendations for action by the college community.

# OCCUPATIONAL AND CAREER EDUCATION

## **A SUMMARY OF PLANNING EFFORTS WITH OCCUPATIONAL AND CAREER EDUCATION DIVISION STAFF**

The foundation of Western Iowa Tech Community College is career and occupational education. It is thought of around the State of Iowa as a "tech" institution, a point validated by not only the college's history, but also the very large percentage of the budget and student body represented by this division. There is reason indeed for the reputation of the school, one embraced proudly.

However, institutional change transforms everything. Because of its predominant position, the college cannot move forward without the division ready to embrace change. Its response in this regard has been dramatic, effective, and highly positive. It is therefore appropriate that this project report begin with efforts on the vocational-technical side of the curricular ledger.

### **Project Activity**

Project staff from The Ohio State University visited WITCC in July, October and December, 1990 and again in March and May, 1991. The purpose of these visits was to work with college administrators, faculty, and staff administrators and staff to consider and explore improvement to the current mix of programs and courses so as to enable the college to better serve the Siouxland region. A summary of these activities and outcomes of these visits with regard to Occupational and Career Education, will follow in subsequent sections.

Drs. Grossman and Starr first made a three-day visit to the college in July, 1990. During this visit project staff met with Dr. Kiser and his cabinet and with administrators of the Occupational and Career Education division. The following tasks were accomplished: (1) the purposes of the project were reviewed in detail; (2) the current state of affairs regarding progress toward implementing a comprehensive plan for Western Iowa Tech and the role of occupational and career education in that plan were discussed; (3) project staff were made aware of the scope of activities to be performed as required by the recently funded Title III proposal; (4) the implications for the college and for the current project were discussed; (5) opinions and attitudes of administrators about conditions that will facilitate or constrain changes in arts and sciences and occupational and career education curricula were reviewed; and (6) a tentative schedule for project activities was established.

Project staff came away from three days of meetings with a number of observations and impressions. First, the Title III proposal will be a key stimulus to institutional change. To ensure a successful implementation of the Title III proposal, the college will in all likelihood need to ensure that adequate priority, staff, and resources are brought to bear to ensure implementation and completion of the proposal. The newly created position of executive vice president can play a key role here.

Second, it was noted that the management information system (MIS) has the potential of enabling the president and key staff to monitor, manage, and control college costs and programming better and most importantly, to establish uniform standards of accountability. In all likelihood, a comprehensive MIS could benefit operations, accountability, and assessment of occupational and career education programs as well.

Third, much needs to be done to determine what areas of concentration should be offered within the arts and science curriculum of the college. Some, of course, will undoubtedly in part be determined by programming within the division of vocational and career education. For reasons of cost control, institutional stability, and convenience, the ability to "leverage" course offerings should be maximized. College administrators also will need to improve articulation of arts and sciences occupational and career education offerings.

Fourth, administrators and staff of the occupational and career education division either have initiated competency-based curriculum efforts or have begun to familiarize themselves with current approaches. A tentative schedule was agreed upon for visits by Dr. Norton to initiate the DACUM/SCID process. (Note: it was subsequently decided by mutual agreement between the college and the project director to cancel this effort and reallocate resources for this purpose to other project tasks.)

Dr. Edwards and Ms. Kehler, consultants employed by the project, traveled to WITCC from Des Moines to report on progress in collecting data for use in developing a paper describing the economy, demography, and employment picture in Siouxland. While in Des Moines, they met with staff from the state board for community colleges as well as staff of state economic development and employment services agencies.

Dr. Starr made a visit to WITCC in October. At the request of Dr. Kiser, he visited with Mr. William Driencewic, a manager at the local Job Services office to gain his impressions about economic and employment conditions likely to impact on program planning by administrators and staff of the occupational and career education division of the college. Mr. Driencewic gave his impressions of changes that have taken place in the local labor market during the past decade. In addition he provided unemployment data for 1989 and 1990. He indicated that the Sioux City area bottomed out of the recession about 1982 or 1983, unemployment has dropped to about 4.2-4.3 percent during 1989 and the first half of 1990, manufacturing remains stable although reduced from former years, and there is some growth in the service sector of the local economy although wages continue to be very low.

Another unfavorable feature of service jobs in the local economy is the tendency by employers to make many service jobs part-time in nature. Lastly, if Dakota Dunes is successful it was Mr. Driencewic's impression that its overall impact on the local economy would be difficult to estimate.

A workshop for the administrators within the Occupational and Career Education division was convened by Dr. Dunker and conducted by Dr. Starr. The workshop explored the following areas: (1) a process for increasing awareness of staff about the complexities



and requirements for institutional and division planning; (2) major structural and functional conditions within the WITCC organization that act as facilitators or barriers to formulating and implementing a new vision for WITCC and the division; and (3) potential strategies for identifying instructional and service needs to Siouxland.

At the start of the workshop excerpts from a draft document prepared by Dr. Edwards and Ms. Kehler were distributed to the group. The document described the economy of the Sioux City labor market area and it was used as a basis for examining factors that could affect program initiation and termination decisions as well as institutional and vocational-technical missions.

Next, the concept of "values" as influencing institutional and division missions was introduced. The group was guided into a discussion on ways in which differences in values based on demographic data and educational philosophy are likely to specifically affect WITCC and division missions. There was agreement that the institution and division missions of WITCC should be periodically reassessed.

The topic of mission was introduced and the need to deal with division programming in the context of WITCC as a business--albeit an educational one. The group examined the consequences on current and future programming based on current and future customer bases, profit and loss concerns, institutional funding sources, and multiple and competing value systems. The purposes for this exercise were to: (a) throw current programming on the table and create a more future-oriented vision for division programming and (b) implant the idea that the concept of mission is goal or target based and that the target might be a moving one.

The group agreed that institutional mission serves as a guide and prerequisite for a division mission and that the development or revision of both institution and division missions should involve the widest participation by persons who will be affected by the missions. Finally, the topic of shared leadership was introduced. Dr. Dunker described his view of shared leadership and how he perceived its operation within WITCC. Workshop participants were given the opportunity to discuss the potential and pitfalls of a shared leadership approach at WITCC.

It was decided to continue the workshop for an additional half day. Dr. Starr opened the workshop session by representing himself as an auditor from the firm of "Nit and Pickers." Nitpickers was given the assignment of rating the institution as an investment. WITCC was defined as a business with a set of products, investor and customer groups, and a balance sheet. The group was told that Nitpickers was concerned about institutional profitability and its strategies for increasing profitability--especially as it attempts to serve diverse clients in a milieu of declining revenues and changing economic, social, and educational conditions. The group was asked to suggest a set of institutional and programming strategies that would convince Nitpickers that WITCC and its "tech" division should receive an A+++ rating. (See appendices for instruments used in this workshop.)

The group expressed a number of suggestions for improving image, marketing and new advertising strategies were suggested to deal with problems of declining enrollments.

A variety of other strategies for program improvement surfaced. These included, restructuring the "tech" and arts and sciences curricula so that it will be course rather than program based, assuming limited and estimated life-spans for courses based on market factors, reducing the levels in the organizational structure to enhance communication and decision-making, modifying attendance policies, increasing the use of adjunct faculty and training sites, and establishing a more "hospitable" environment for new students and potential enrollees.

Drs. Grossman and Starr visited WITCC in December. During that visit occupational and career education supervisors were oriented to the purposes of the project and were led by Dr. Starr into a discussion designed to obtain their reactions and inputs to the problem of curriculum changes for the division. Also present (but not participating in the discussions) were the division administrators who unfortunately may have experienced some information overload since much of the discussion was a repeating of the process that took place during the October meeting.

Based on the nature of the discussion and interactions among supervisors, project staff, and Dr. Dunker, it may be inferred that many of the supervisors are understandably concerned over the possibility of curricula changes in the delivery of vocational-technical education. On the other hand, it appeared to project staff that there was a willingness for curricula changes to occur. The goals which were established for this meeting appeared to have been met.

Following the meeting with the supervisors, Dr. Dunker, division administrators, and Drs. Grossman and Starr met to discuss three options facing WITCC as it endeavors to enhance its vocational-technical education programming: These options were: (1) maintain the present programming being offered to students; (2) review current offerings and determine which ones should be terminated, which ones continued as they are, and which ones should be combined or integrated with others to produce a more responsive program mix; and (3) plan mainly to offer 2-year associate degree technology programs that are carefully articulated with arts and sciences courses and offer other kinds of vocational education programs only when local conditions and needs warrant and resources are available. This option would likely produce the greatest resistance from staff because it would result in "major surgery" in contrast to the other two options.

Staff elected to spend the afternoon discussing the implications of option 2 on current vocational-technical education programming. All current programs were listed with two criteria being applied to each one. The criteria were percentages of enrollment increase or decrease and median wages of program completers. The data used were produced by a student follow-up procedure conducted by Student Services. A summary of the deliberations was prepared by project staff. Table IV displays these results, showing the instructional program, approximate enrollment changes from 1985-1990, and the average hourly wage paid for workers in the occupational area. Finally, staff made a determination as to whether the program should be continued, dropped, or modified. Subsequent reflection and review led to a new analysis and schedule. Table V presents this, the term "modified" indicating a determined need for structural program change, perhaps including a merger of programs into one supporting a portion of an associates degree program.



During March, project staff met with Dr. Dunker and the division administrators and continued efforts to decide about which current offerings should be combined, which ones terminated, and what new occupational offerings should be considered for implementation. Since the last meeting, division administrators held meetings at which they produced among other things a mission statement for the division as well as qualitative criteria for associate degrees in occupational areas.

During the Spring of 1991 staff prepared a mission statement for the division, conceptualized learning continuum, including "stopping-off" points, and formulated qualitative criteria for granting the associate degree in occupational areas. These are found in exhibits 3, 4, and 5. Later in the spring, staff began to implement these plans in terms of the criteria defined during the course of the year.

TABLE IV

Five-Year Analyses (not "Projection"): 1985-1990

| Occupational Program | Enrollment Changes (+ or -) | Average Siouxland Wage | Continue | Drop | Modify |
|----------------------|-----------------------------|------------------------|----------|------|--------|
| ACCOUNTING           | -20%                        | 6.06                   | X        |      |        |
| ACCT SPEC            | -60%                        | 5.84                   | X        |      |        |
| ADMIN ASST           | -50%                        | 5.31                   |          |      | X      |
| AG-POWER             | -80%                        | 5.08                   |          |      | X      |
| AG. TECH             | 0                           | 5.86                   |          |      | X      |
| AIR CONDIT           | -15%                        | 8.52                   |          |      | X      |
| ARCH CONS DRAFT      | +15%                        | 9.23                   |          | X    |        |
| ARCH ENG TECH        | +15%                        | 7.06                   | X        |      |        |
| ASSOC DEG NURS       | +75%                        | 10.36                  | X        |      |        |
| AUTO BODY            | -33%                        | 6.50                   |          |      | X      |
| AUTO MECHANICS       | -40%                        | 5.67                   | X        |      |        |
| AUTO MANF TECH       | +20%                        | 0.00                   | X        |      |        |
| AUTO TECH            | 0                           | 9.13                   | X        |      |        |
| BAND REPAIR          | -25%                        | 9.65                   | X        |      |        |
| BAND TECH            | +133%                       | 9.65                   | X        |      |        |
| BIO-MED ELEC         | -50%                        | 8.08                   | X        |      |        |
| BUILD MAIN.          | 0                           | 6.12                   |          |      | X      |
| CARPENTRY            | 0                           | 5.50                   |          |      | X      |
| CLER BKKP            | -60%                        | 4.75                   |          |      | X      |
| COMP PUB TECH        | NEW                         | 0.00                   | X        |      |        |
| COMP PROG            | -33%                        | 8.94                   |          |      | X      |
| DATA PROC            | -40%                        | 6.22                   |          | X    |        |
| DENTAL ASSIST        | +20%                        | 6.66                   | X        |      |        |
| DIESEL MECH          | -75%                        | 6.99                   |          |      | X      |
| ELECTRICIAN          | +30%                        | 8.06                   | X        |      |        |
| ELEC COMM            | +30%                        | 8.06                   | X        |      |        |
| ELEC ENG TECH        | -50%                        | 8.18                   | X        |      |        |
| ELEC SYS MAIN        | -30%                        | 7.68                   |          | X    |        |
| ENERGY/SOLAR         | -45%                        | 8.00                   |          |      | X      |
| EQUIP RENTAL         | -90%                        | 7.70                   |          | X    |        |
| GRAPHICS             | -45%                        | 5.33                   |          |      | X      |
| HEAT/SHEET/PLUM      | 0                           | 7.37                   | X        |      |        |
| INFO/WD PROCESS      | 0                           | 5.99                   | X        |      |        |
| LEGAL SEC            | 0                           | 4.99                   | X        |      |        |
| LIVESTOCK PROD       | -50%                        | 7.21                   | X        |      |        |
| MKT. MANAGE          | +45%                        | 6.98                   |          |      | X      |
| MEAT CUTT/SAUS       | -15%                        | 8.00                   | X        |      |        |
| MECH DRAFTING        | +35%                        | 6.49                   |          | X    |        |
| MECH ENG TECH        | 0                           | 7.93                   | X        |      |        |
| MED SECRETARY        | 0                           | 5.76                   | X        |      |        |
| MICRO SPECIAL.       | -10%                        | 5.00                   |          |      | X      |
| PARK/GOLF COUR.      | -40%                        | 5.90                   | X        |      |        |
| PIANO TEC/REP.       | -22%                        | 13.21                  | X        |      |        |
| POLICE SCIENCE       | 0                           | 6.60                   | X        |      |        |
| PRAC NURSING         | +110%                       | 8.57                   |          | X    |        |
| SECRETARY            | 0                           | 5.02                   |          |      | X      |
| SURG. TECH           | 0                           | 6.89                   |          |      | X      |
| TELECOMM             | -30%                        | 9.87                   | X        |      |        |
| WELDING              | -40%                        | 6.58                   | X        |      |        |

TABLE V

Review of Program Determination

IN

Accounting  
Accounting Specialist  
Architectural Construction Engineering Tech  
Associate Degree Nursing  
Auto Body  
Auto Mechanic  
Automated Manufacturing  
Band Repair  
Band Tech  
Biomed Electronics  
Carpentry  
Computer Publishing Tech  
Dental Assistant  
Electrician  
Elec. Communications  
Electronic Engineering Technology  
Heating-Sheet Metal  
Information/Word Processing  
Livestock Production  
Meat Cutting  
Mechanical Engineering Tech  
  
Park & Golf  
Police Science  
Piano Tech/Repair  
Practical Nursing  
Telecommunications  
Welding

Modify

Administrative Assistant  
Ag Power  
Ag Tech  
Air Conditioning  
Biomed Electronics  
Building Maintenance  
Computer Programming  
  
Energy/Solar  
Graphics  
Marketing Management  
Micro Specialist  
Medical Secretary  
Equipment/Rental Management  
Secretary  
Surgical Technology

# Mission Statement

**The mission of the Occupational and Career Education Division of WITCC is to empower individuals to reach their occupational, academic, and personal goals. This is accomplished by providing all students a continuum of educational opportunities culminating in an Associate degree.**

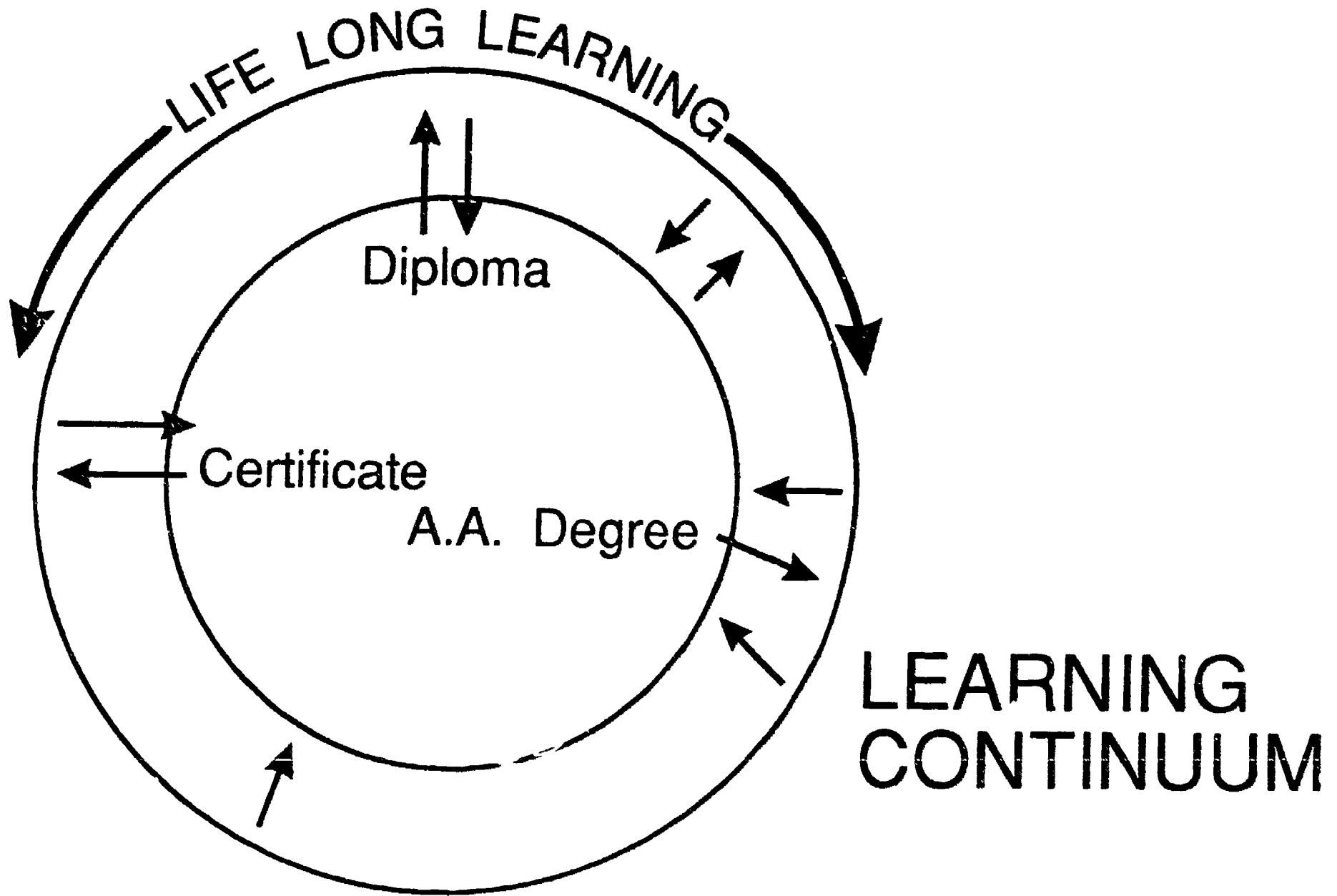
51

# Continuum of Educational Opportunities

1. Career and academic assessment
2. Developmental education, as needed
3. General education/related studies common to all students
4. Technical specialty courses
5. Technical support courses
6. Completion of Associate's Degree
7. Life-long learning opportunities

**STOPPING OFF  
POINTS  
DIPLOMA  
CERTIFICATE**

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# **Qualitative Criteria for Associate Degree in Occupational Areas**

- 1. Technical sophistication required in occupational areas**
- 2. Depth and breadth of curricular content intrinsic in the field**
- 3. Occupation will require students to use cognitive skills at the analysis and synthesis levels, as opposed to recall level**
- 4. Course content will teach student how to learn further**

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## Analysis

The progress made by the Occupational and Career Education Division was quite remarkable. One point, purely symbolic in and of itself, but clear evidence of transformation, was the change in terminology the division utilized in referring to itself. Considered the "vocational-technical" group early in the project, the process of redefinition of mission, goals, and strategies led to a redefinition of the group itself. The division very certainly took a quantum leap through self-examination and the positive outcomes are in very clear evidence.

Relative to the new mission statement of the division, it is important to note that it now unites occupational, academic, and personal goals with the overall purpose of empowerment in all these arenas. This is a far cry from narrow, job-specific training as has so appropriately defined its performance in the past. Occupational and Career Education has now set itself the task of preparing the people of Siouxland to live productively in the 21st century.

Worthy of note as well is the notion that education is a continuum of opportunities, recognizing that those programs which serve a student's need today may require updating tomorrow. Indeed, a program that leads to a "dead end" within the college likely also provides little opportunity to grow in the student in the workplace. Hence, the divisional curriculum must be able to expand and grow as well and that it must be linked to relevant arts and sciences courses. Further, that as the college's overall product is providing students an opportunity to acquire the associate's degree, Occupational and Career Education must be developmental and capable of delivering the technical relevance worthy such of an advanced degree.

From this perspective, two clear directions emerge. First, as identified by the staff itself, job-specific certificate and diploma programs are currently ends in themselves. However, in the "new WITCC," they become only temporary "stopping points," means to new ends. Second, any distinction between Occupational and Career Education and other aspects of the college's programs is arbitrary and bureaucratic. Vocational-technical offerings must be leveraged and linked with every other area. The expressed concern that emerged from the Occupational and Career Education Division was, appropriately, for the "whole college." This in itself was progress.

The format of a report cannot do justice to the distance travelled by the staff and administration of the Occupational and Career Education Division during the course of this project. Initially embracing a rather defensive posture about its past, the division took a hard look at itself and its results, identified the barriers and constraints, and eventually, courageously embraced its future. The details therein remain to be determined, of course. The project staff has provided recommendations that it believes will assist the group in pursuing its goals. However, genuine progress toward accomplishing these objectives has been transformed from a mere hope to a reasonably assured outcome. The entire division is to be heartily congratulated.

## COMMUNITY AND CONTINUING EDUCATION

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## **A SUMMARY OF PLANNING EFFORTS WITH THE COMMUNITY AND CONTINUING EDUCATION STAFF**

In its original formulation, the Community and Continuing Education Division (then called "Continuing Education") was exempted from the scope of this project. At the time, and particularly given the focus of the project as it was considered then, Continuing Education was perceived to have an independence of mission and orientation that was outside of the curricular mainstream of the college. A planning study of the college, therefore, was inconsistent with the needs of the division, which had its own agenda.

This began to change as the purposes of the project shifted. With more emphasis on staff development as opposed to formalized planning, it became clear that continuing education could not be ignored. Further, given the size of its presence in the college in terms of both staff and student contribution, WITCC administrators determined that attention must be given to continuing education, particularly in light of the progress of the Occupational and Career Education Division. If WITCC was indeed moving to an associate's degree-based format, continuing education was too important a source of community impact to not include. Further, if a means could be found to enhance the path of continuing education students into the college mainstream, all aspects of the organization would be strengthened. With this in mind, the project team began a series of meetings with the Community and Continuing Education team.

### **Project Activity**

The project team first met with the "Continuing Education" staff in March of 1991. The first several hours of discussion involved an exhaustive review of a programs recently delivered by the division, such as a computer graphics expo in February; a cooperative venture with unions in support of an apprenticeship program leading to certification; the 3rd Annual Regional Fire School; "Emergency '91," an event to service emergency workers; recertification programs of emergency medical technicians; provision of continuing education for nurses; customized training in statistical process control; and insurance and real estate seminars, both for credit and licensing, as well as other short-term training programs being planned.

Additional time was spent exploring the divisional role in adult basic education; its emphasis in "English as a Second Language" (ESL); its focus on occupation-specific language training; and, of course, General Equivalency Diploma (GED) classes. In this latter regard, division staff pointed out that it was very involved as of late with the upcoming GED graduation in June.

Project staff then inquired as to those aspects that best characterized work in the division. The response was that a very high quality job was being performed, that the division provided more hours of training at a lower price than anywhere else. Continuing education, they asserted, was more in touch with the community than any other part of the college.

Later discussions with the division staff reinforced this self-confident assessment and explored ways in which its task could be more closely linked with the project work occurring elsewhere. The project staff brought the division personnel up-to-date with these efforts, particularly with respect to vocational-technical education. At the suggestion of the college administration, it was intended that both credit and noncredit aspects of the WITCC instructional effort be more closely joined, rather than continuing the competitive relationship sometimes present. With this in mind, the project team introduced the conceptual model it had been using with the vocational-technical and arts and sciences faculty. In sum, project staff emphasized the following aspects of the plan development.

- Orientation - What is the continuing education division trying to accomplish and what is its history?
- Realities - What are the short- and long-term opportunities and/or constraints in the environment?
- Priorities - Which opportunities/constraints are most important and with what values should the division operate?
- Vision - What would the staff like the continuing education division to be in the future? What role should it play in the "new WITCC?"
- Mission - In this vision, what would the mission of the division be?
- Goals - What specific goals are suggested by the mission that would lead to the vision becoming a reality?

After lengthy discussion, the division staff first constructed a set of priorities which emphasized the importance of working with the community and having sufficient skills, staff, and resources to accomplish this appropriately (see exhibit 6). Subsequently, the vision of the division was considered and attention given to what must change in order for this to become a reality. Discussion focused on staff development, better facilities, greater institutional flexibility, and an improved community image (see exhibit 7). Next the mission of the division was considered (exhibit 8). Finally, specific goals for fulfilling this mission were considered, establishing a target date of the year 2000 (exhibit 9).

During the May visit, project staff reviewed the accomplishments of earlier discussion and pointed out the similarities between the progress of the continuing education (now called "Community and Continuing Education") and the work in other areas. The suggestion was made that the division work with staff in vocational-technical and arts and sciences areas, insofar as it was clear that everyone appeared to be oriented similarly. After some discussion, this suggestion was readily accepted.

# **Priorities for Continuing Education (WITCC)**

- 1. Improving "people skills", customer service, product knowledge**
- 2. Institutional/divisional flexibility/creativity with respect to customer needs**
- 3. Customer is boss!**
- 4. Improved ability to assess customer needs**
- 5. "User-friendly" services**
- 6. Quality in all services**
- 7. Improve professional networks, community resource knowledge, expertise, etc.**
- 8. Greater internal support/resources/recognition**



# **What Must Change for C.E. to Achieve Its Vision?**

- 1. More support staff**
- 2. Better physical facilities/equipment — especially conference facilities**
- 3. Staff development, especially marketing ideas**
- 4. Greater college-wide allegiance/awareness of institutional mission and goals**
- 5. Greater pricing/financial flexibility**
- 6. WITCC image must improve across state lines and be better defined**

# Mission

**The purpose of the Community Education Division at WITCC is to develop, deliver programs and serve as a knowledge resource responsible to the educational, social, and occupational needs of the people of the area, such that the opportunities for individuals, businesses, and community groups are significantly enhanced.**

# Goals

- 1. By 1995, increase the number of contact hours delivered by Community Education programs by 50%. By 2000, contact hours will increase by 100%.**
- 2. Tuition income from continuing education programs will increase in proportion to contact hours.**
- 3. Measurable goal for social support program**

## Analysis

The Community and Continuing Education Division has displayed a great deal of growth over the course of this project. Since the beginning of the effort, when division staff displayed a somewhat resistant and defensive posture, the staff began to recognize that change was not tantamount to a threat. Moreover, not only would the "new WITCC" preserve the role of continuing education, but that it would expand. Indeed, insofar as the numbers of traditional students (recent graduates from area high schools) had declined and would continue to decline even more precipitously, more students were going to be "nontraditional," i.e., adult members of the community, most of whom had been out of a school setting for some time. Further, as the service population of the college was now to include all those in the area who had not yet received an associate's degree, course availability would have to be made accessible to a broader group of people. This meant that times and dates of courses, the site at which they were conducted, etc., would have to be "nontraditional" as well. In WITCC, only continuing education utilized the model of educational delivery that would have to be college-wide in the future.

Finally, and perhaps most significantly, continuing education remained in best touch with adult members of the community, the new student core of the college. This meant that the Community and Continuing Education Division not only could communicate with this population, but that a substantial portion of the recruitment of these new students could be initiated through continuing education courses and offerings. All of these factors hardly suggest a lesser role for this crucial element of the "new WITCC."

Clearly, the staff of the division understood the circumstances. Under the guidance of Dr. Dunker and Dr. Rice, the staff quickly embraced the need and opportunity available through collaboration with other instructional units. This made it possible to join Occupational and Career Education; Arts and Sciences; and the newly energized Community and Continuing Education (the change of name significant in itself) into a committee of a whole to address college-wide concerns. This outcome was a major accomplishment of this portion of the project.

**ARTS AND SCIENCES**

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## **A SUMMARY OF PROJECT ACTIVITY IN THE ARTS AND SCIENCES CURRICULUM**

Clearly, a portion of the impetus for an improved arts and sciences curriculum at Western Iowa Tech Community College involves a response to the expectations of the state of Iowa. By statute (Code of Iowa, 280A.1), community colleges are required to be comprehensive. Thus, a community college in Iowa must have offerings from which training in the arts and sciences can be gained, whether its purpose for the student is transfer-related or as an end in itself. This is in no way to discredit the importance of occupational programs; indeed, virtually all of the available information concerning work force requirements of the 21st century point to skill transferability and the ability of workers to communicate effectively. As such, the state is pressing its notion of a "comprehensive" college curriculum as one in which the arts and sciences are well represented.

Yet another reason for WITCC's attention to the arts and sciences is the requirement to attend to it in the context of the recently awarded Title III contract. To be sure, progress must be made in the arts and sciences for the college to reach compliance with the terms of the grant. In this respect, the college has committed itself to the introduction of eight new associate degree programs which are specific to the arts and sciences and oriented to college transfer. Five others provide the opportunity for college transfer while still enabling the student to find employment at the associate's level. Meeting the demands of these requirements makes the implementation of the arts and sciences program mandatory by 1995.

The synthesis of these two bases of action would suggest that WITCC has to move forward with a comprehensive arts and sciences program to keep the doors of the institution open. While this is perhaps true, the project team discerned a much richer, much more compelling and ultimately more effective foundation for the arts and sciences and the college itself: the growing consensus on the part of the faculty and staff that a quality program in the arts and sciences is the right thing to do. Pockets of resistance to this sentiment do indeed exist. Still, there is support, or at least recognition, of the idea that the college can and must make progress quickly in this direction in order to stay current with the needs of its service population and to fulfill its mission as an institution of higher learning.

### **Project Activity**

As originally proposed, arts and sciences issues were to have been a major portion of the focus of this project. Soon after it began, the college's Title III grant was funded which subsumed a substantial part of the planning and implementation functions of the project. This was part of the college administration's rationale for shifting emphases in the project. However, some work in arts and sciences had already begun. As well, the effects of program growth in the area had a decisive impact upon the other instructional areas, particularly in the development of "college-wide concerns." As such, the work done and



issues raised will be discussed, with a much broader consideration occurring later in this document.

In discussions with members of the arts and sciences program, the project team was informed of a 5-year plan for program development, synthesizing its direction with the requirements of Title III. They reported programming or intention to create programs in radio broadcasting, elementary education, computer sciences, and several other areas. While generally optimistic about the direction and priority of the program, leaders in the arts and sciences program expressed concern about the chronic lack of resources in terms of time, space, and personnel, and concern that other units of the college controlled those resources. The problem, according to arts and sciences staff, rested not with the level of awareness of need internal to the program. Rather, there was a considerable degree of skepticism that significant changes of college priorities would be made such that a comprehensive program in the arts and sciences would be immediately forthcoming and available to the Siouxland community.

With regard to specific areas of concentration, the Title III grant provided a listing of associates' degree programs. Of these, most of those qualifying for an Associate of Arts degree had seen some implementing actions; those in the Associate of Science category continued to be under exploration at the time of the project involvement with the area.

## Analysis

During the time in which the project had the responsibility of addressing these issues, the same stated limitations emerged that had always plagued attempts to implement the arts and sciences curriculum at WITCC: too few people, too little money, too little time, too little space, and a general feeling that it could not be done. All of which was true! Given the institutional mindset of the college, the standard way of approaching this question was that it could not be done with traditional students from 8:00 a.m. to 3:00 p.m., in the college's own buildings, and with the college's own faculty. The project team was in complete agreement with the staff under such circumstances.

However, the project team asked the arts and sciences staff to consider a paradigm shift. In effect, what if we change the context? What about nontraditional students in schools, workplaces, and storefronts all around Siouxland? Suppose instead of the student meeting the college's schedule, the college met theirs, even if the need required classes to be held from 8:00 p.m. to 3:00 a.m. instead? Why couldn't part-time, non-WITCC faculty teach these courses, perhaps designed around relevant activities, e.g., one's occupation, in such a way that it not only met degree needs, but also had an immediate "payoff" in one's life?

Considering these questions seemed to very much interest the staff, causing them to re-emerge later with answers in the exploration of college-wide issues. Many of these issues received significant attention in that setting.

## RESOURCE DEVELOPMENT

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## **RESOURCE DEVELOPMENT**

The original project was to have some small measure of involvement for the college's creation of a plan in the resource development area. However, priorities shifted when the college administration suggested turning the project into a staff development effort. This, plus the fact that new resource development staff had been hired to perform this precise function, supported the administration's decision. Accordingly, little project activity took place in this area.

By observation, the project team considers that less progress than the college originally hoped took place over the year. Staff turnovers and other priorities tended to undermine the development of a comprehensive strategic vision in this area. Clearly, WITCC seems to be behind in terms of its hopes for enhanced resource development efforts.

Accordingly, while the project took no direct action in the area, much of what was done elsewhere has a bearing on resource development. New resources into the college can support some of the changes suggested in this document. Therefore, it has been addressed implicitly in most of the recommendations, although it is formally attended to as well. In this latter sense, the college's obvious need for a plan is underscored.

## STUDENT SERVICES

## **A SUMMARY OF PROJECT ACTIVITY IN THE STUDENT SERVICES AREA**

The Student Services Division plays a key role at WITCC, in many ways being the communications hub between the population of students and prospective students on one hand and the instructional units on the other. Over time, student services has grown in terms of representation in the organizational structure of the college as well as in its scope of activity.

In the community college system, there is nothing particularly unusual about the role that student services plays at WITCC. It attempts to cope with the various mandates and pressures common to all similar institutions and does so with an increasingly limited resource base. Yet, a "new WITCC" needs a transformed communications center as well. With this in mind, the project team considered student services issues.

### **Project Activity**

Project personnel met with Student Services Division management and staff on several occasions up until the retirement of the divisional administrator. The early input from the staff concerned a primary focus on constraints, the reasons why action is difficult or cannot be taken. Staff complained of federal reporting requirements which distort the true nature of student program achievement and job placement; of poor marketing and little support for their recruitment efforts; of antiquated and discriminatory attendance policies that hamper the progress of the nontraditional student; and a college-wide lack of "student-centeredness," i.e., student as employee, not a human being. There were, of course, a litany of other concerns raised. However, early discussions suggested a fairly low staff morale and a general lack of confidence about the future.

Given these concerns, project staff conducted an exercise in which the positive aspects of student-services related activities could be illustrated, along with specific issues that unit personnel believed needed some attention. Exhibit 10 displays these results.

A later discussion concerned how the college can better serve the "changing student body." These ideas revolved around such notions as college activities more appropriate to the nontraditional student; increasing faculty/staff involvement in the community; a name change for the college; free classes for senior citizens; and better care for campus buildings. In short, a much greater emphasis on accessibility and community image, two areas perceived as having the greatest deficiencies at the present time.

## Exhibit 10

### Comparisons of Contributions and Needs in Student Services

#### Contributions to Students

- + Career Learning Center
- + Individualized Learning Center
- + Counseling-personal and vocational
- + Visiting College Transfer Counselors
- + Articulation Agreements
- + Course Equivalency Lists
- + Work-Study Opportunities
- + Long-term \$500 loans
- + Student Senate Welfare Committee

#### Needs

- o Faculty/Staff Development
- o A counseling department
- o Stronger remedial education
- o Targeted financial aids
- o More grant dollars
- o Symbolic things for nontraditional students (e.g., "ESL in Spanish")
- o College bi-lingual capacity
- o More minority staff/faculty

Regarding areas of possible innovation in terms of student services activities in particular, division staff came up with a number of ideas to enhance the efficiency and availability of the college to the community. These include:

- Direct mail registration/recruitment
- Advertisements on computer bulletin boards
- Notices on public access TV
- Touch-tone telephone registration and information
- More videotape presentations/resources
- Expansion of FAX services/communications networks
- College offices in the mall/storefront locations
- College on-line library services available to community

In general, the student services staff felt at least somewhat optimistic that a few of their ideas might someday be implemented. Yet, the overriding feeling demonstrated was that "business as usual" would predominate.

#### Analysis

Interpretation of the reactions of student services personnel is difficult for several reasons. First, the group was undergoing a change in divisional leadership and experiencing uncertainty about the future. Further, budget and enrollment anxieties were at their peak when the unit's staff spoke with the project team. Finally, the time when the instructional staff were recognizing the opportunities involved in the change was late in the project year, when the instructional leadership emerged. There was, at this point, little involvement of the Student Services Division. Thus, in certain respects, some of the morale issues can be partially explained by the situation.



Yet, not all of their concerns can or should be so easily dismissed. The condition of the student services "hub" tells much about the college as a whole. Regardless of how inspiring activity in the instructional arena is, it cannot be truly effective until student services can be modernized, adapted, and transformed as well. And many of the ideas developed by the staff are on the right track and should be heeded. Whether all are accepted or not requires very careful thought at a number of levels. However, it must be recognized that the student services staff has an important prospective that deserves serious consideration. For this reason, the project staff devoted significant attention to the issues raised and this is reflected in the recommendations section.

## COLLEGE-WIDE CONCERNS

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## **A SUMMARY OF PROJECT ACTIVITY REGARDING COLLEGE-WIDE CONCERNS**

The project culminated in a series of sessions under the rubric of "college-wide concerns" bringing together staff from all three instructional areas: vocational-technical (now "Occupational and Career Education"); continuing education (now "Community and Continuing Education"); and Arts and Sciences. Their mission was to establish common ground on the problems and to create a context for solutions. The following summarizes this process with the project team.

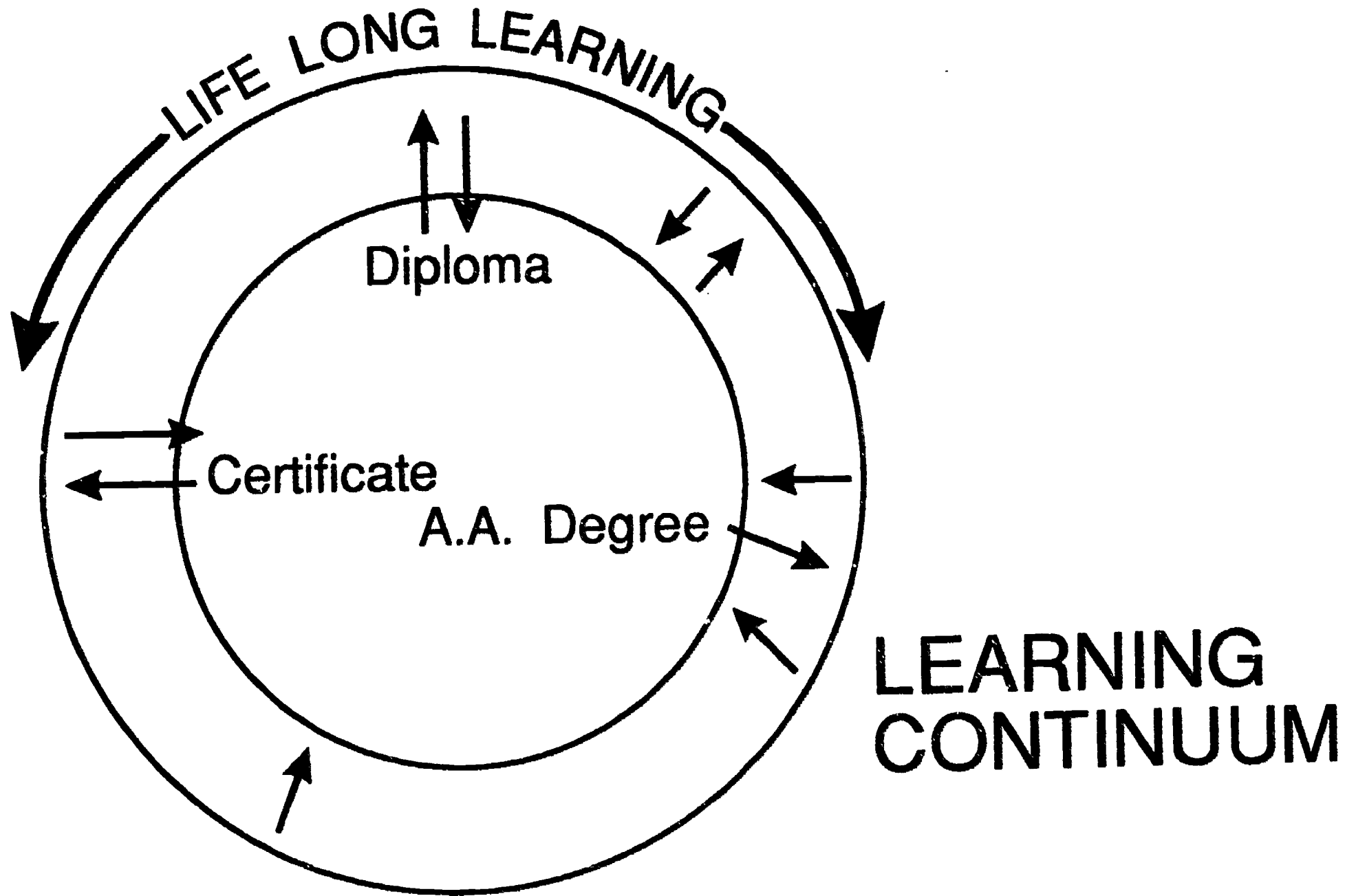
### **Project Activity**

After meeting individually with the various instructional units, Dr. Dunker called together leaders from each of the three areas during the March visit. The group first determined, following the lead of Occupational and Career Education, that the ultimate "product" of the college is the associates' degree. All student involvement in the college, therefore, should be linked in some, however peripheral, way with this objective. As such, the prospective student "market" for the college is all community residents who have not yet accomplished the associate's degree, some 85 to 90 percent of the population. Further the group identified the "Lifelong Learning Continuum" (exhibit 11) as the appropriate model for this purpose.

To achieve this, it was determined that any distinctions between "credit" and "noncredit" course offerings were arbitrary in nature. Hence, they should contribute one to another, enabling the student to make progress toward the associates' degree no matter when she/he begins or how long it takes. The criteria for such cooperation is defined by exhibit 12.

Indeed, as the discussion progressed, it became obvious that what was being identified was a radical departure from the past and was indicative of a structural change being demanded as well. Defining the terms of this organizational shift, it was determined that all courses were one integrated curriculum package operating through the various divisions for management purposes. College administration and campus-wide management and service functions exists principally to serve instruction, not the reverse. Exhibit 13 graphically illustrates this concept.

Dealing next with implementation, the leadership group feeling greatly empowered and enthusiastic, recognized the need for the rest of the staff to be "converted" to this new perspective. The group then chose to identify means and mechanisms to accomplish this "missionary" work, emphasizing the development of new symbols to market the perspective internally. Exhibit 14 lists these conditions. With this approach, the group concluded the first series of meetings.



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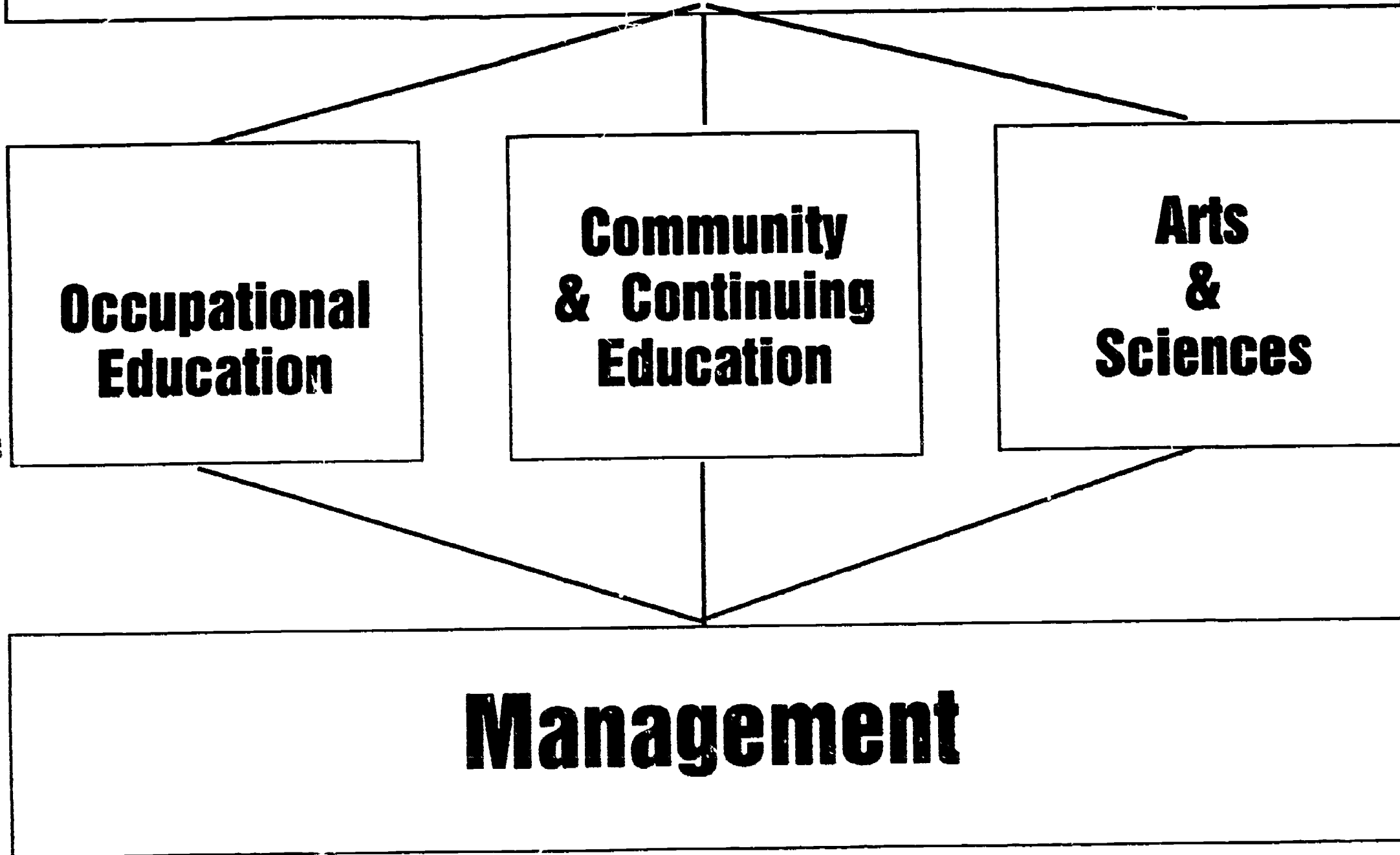
# **Conditions for Working Together Better Credit and Non-credit**

- 1. Better communications**
- 2. Acknowledge one another's expertise/paradigms**
- 3. Define specific goals from mission statements**
- 4. Define common definitions**
- 5. Redefine market "pie"**
- 6. Hold "good of WITCC" as highest goal**
- 7. Have to use resources more effectively**

- 8. Change internal value system**
- 9. Articulate courses between divisions or change divisions**
- 10. Planning needs to occur in a context of a global community**
- 11. Call for a shift in paradigm of external bureaucracies**
- 12. Recognize primacy of educational delivery over support services**
- 13. All faculty and staff must "buy-in" to new mission**
- 14. Eliminate "finger-pointing"**
- 15. Identify barriers to effectiveness**
- 16. Define new measures of success, accomplishment, tied to new mission**



# WITCC Credit/Non-Credit Courses



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# **Conversion of Others on Staff**

- 1. Training, Inservice, etc.**
- 2. Help them identify their own barriers**
- 3. Include rest of staff in staff development process**
- 4. Develop symbols of new mission, i.e. internal marketing**

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Approximately two months passed between the first and second series of project related meetings with instructional leaders of the college. In that interim, the group met several times on their own initiative. When the project team returned, the group had not only made considerable progress but also was well-prepared for more.

The first order of business, as determined by the staff, was a formalization of the communications process into a body with decision-making authority. Jokingly called the "Doug Commission," an affectionate tease on the individual who conceptualized the approach and chaired the ad hoc "working together better" committee, the group was actually constituted as a curriculum committee whereby course content, quality, articulation, and integration could be ensured (exhibit 15). The workscope and constitution of the committee was next considered (exhibit 16), followed by an organizational chart displaying the presence of the Curriculum Committee relative to other college units (exhibit 17). Clearly, it was intended by the instructional leaders that this group was to be the pre-eminent entity for instruction, save only the Executive Vice-President for Instruction and President of the College.

Upon determining the structure of curricular decision-making the committee considered the impact of all of this on the college. They first examined why the college was essential to the community (exhibit 18) and what it offers that is unique. Secondly, they explored what should the community understand about WITCC and what messages should be coming from the college (exhibit 19) with which it can organize its public information efforts to sharpen its image in the collective mind.

Further, the committee considered the vision of the "new WITCC," at the individual and collective levels (exhibit 20) and what is needed, as of today, to begin work on that mission (exhibit 21).

Finally, Dr. Dunker closed the project session with an acknowledgement to the group for its contribution. The admonition "Business as Usual = Death" (exhibit 22) emerged from Dr. Dunker's remarks as a useful reminder about the inevitability of change and the consequences of failing to grasp it. This meeting closed the formal interactive portion of the project.

# **Agreements in Principle — The Doug Commission**

**1. College needs a college-wide curriculum committee (instructional areas) to review and comment on curriculum matters in:**

- a) New program/course development**
- b) Program/course modification**
- c) Program/course deactivation**

**2. Goal of curriculum committee is to ensure curriculum quality**

**3. Special consideration for non-credit**

**4. A curriculum guide needs to be developed**

**5. Place where curriculum committee fits**

# 1. Communications

## —Joint Meetings

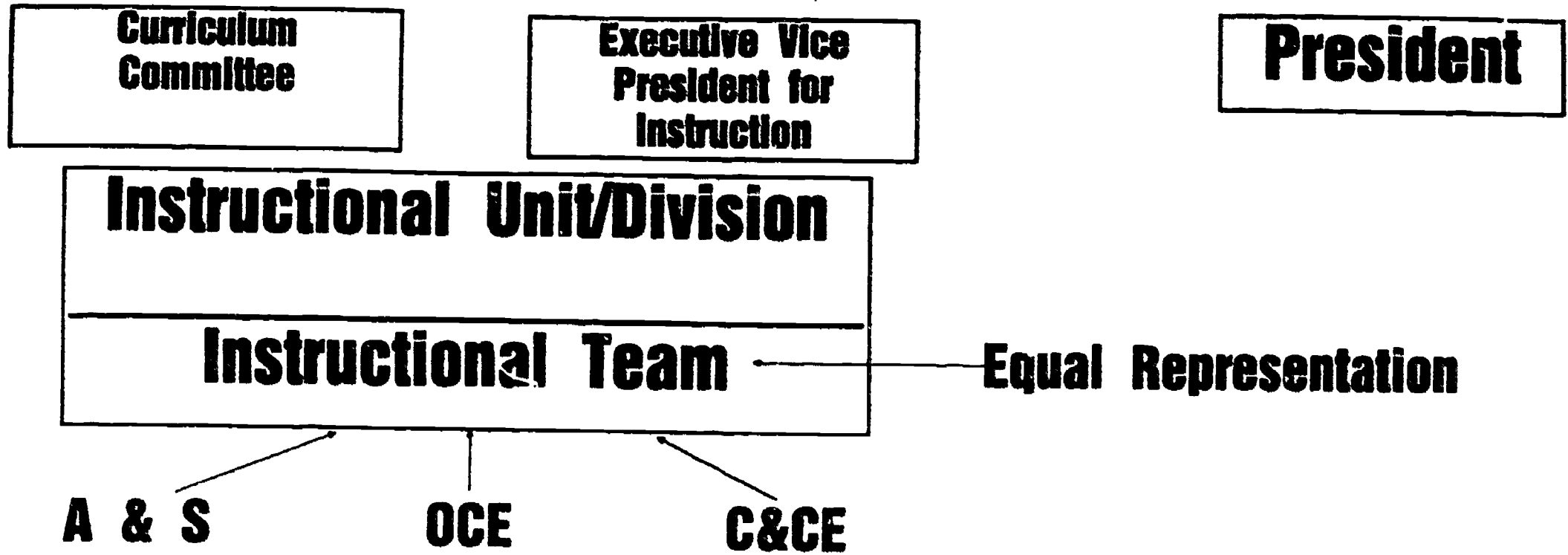
should be formal, structured, agend-driven, etc.

## —Task Force on Associates Degree

1. What's needed, i.e. student registrations, contexts, etc.
2. What's possible with resources, mission, time available.
3. Communicate definition of Associate Degree
4. Communicate process of developing degree proposals.

—“Market Pie” — criteria: mission and/or bodies

**Planning Group: Doug Kanaly, Brenda Porter — Arts & Sciences;  
Bob Rice, Gary Swaney — Community & Continuing Education;  
Chuck Norby, JoAnn Erickson — Occupational Education**



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### Questions to deal with

1. Titles
2. Location of cross-divisional programs
3. Location of all programs
4. Durations of committees (i.e. policy)

### Management services

- Personnel
- Business
- Student Services
- Ancillary Staff



# **Why is WITCC essential?**

- 1. Major source of entry-level employees**
- 2. Handles problem cases**
- 3. Unique capacity**
- 4. Member of state-wide network**
- 5. Flexible**
- 6. High Quality/Cost**
- 7. Economic development — community resource development**
- 8. Transfer point/change agent**

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# Message to community

**1. Essential to community**

**2. “What you can do for you” as well as “What we can do for you”**

**3. “Best There Is” — Leadership**

# **Mission—focus of “new” college**

— **Direction of intent, purpose**

## **Individual —**

**Opportunities to improve quality of life through life-long learning**

**Consumer-owned and operated**

**Career development**

**Customized opportunities, benefits, learning**

## **Aggregate —**

**Responsive to needs, e.g. economic development**

**Assimilation**

**Unification of community**

# **ORGANIZATIONAL RESOURCES FOR LEADERS**

- 1. Better telephone system**
- 2. Support staff**
- 3. Better products from instruction and management**
- 4. Appropriate structural recognition of primacy of instruction**
- 5. End the “Administrative Council”; reorganize into “Instructional” and “Management” functions**
- 6. Provide quality orientation program for new staff**
- 7. Equal access/resources for outlying areas**
- 8. Cut bureaucracy (Let us get on with our business)**
- 9. Provide quality management information**

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**BUSINESS  
AS USUAL = DEATH**

## Analysis

"Business as Usual = Death" is a stark, fear-inspiring formulation of a very important notion: in this rapidly changing, increasingly global world, change is inevitable. Prosperity, and even life itself, depends on a successful adaptation to it.

The problems facing Western Iowa Tech Community College are obvious. Enrollments have been dropping over a number of years with this past year being a possible, if only temporary interruption. The post-high school students around whom the college has built its program are less and less a factor in the college's planning and in the realities of the Siouxland community. And while recognizing the need to adapt to the needs of the adult, nontraditional student, the college has thus far been very slow. As this occurs on campus, the surrounding community has been generally considered to be in a decade-long economic slump. While some signs of activity have been apparent lately, jobs which may result from new investment dollars will tend not to be in the manufacturing and trades jobs upon which the college was built. The college and its programs must change.

The college has a choice, the same one identified in the 1989 Phase I report: the college can decline, perhaps even faster than Grossman and Gyuro predicted, due to changing circumstances. Or it can restructure, reprioritize, remold its image, and act. This project, one hopes, has served as a stimulus toward that latter end.

Clearly, enormous progress has been made over the course of this year and because of this those involved should feel very proud. In order to support this movement, the project team has defined an extensive set of recommendations that it feels confident will support and enhance the results of the project outcomes to date. These suggestions are discussed in the next section.



## RECOMMENDATIONS

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## **RECOMMENDATIONS/NEW DIRECTIONS FOR STRATEGIC PLANNING AT WESTERN IOWA TECH COMMUNITY COLLEGE**

Based on the input of staff and counsel with the college administration, the following recommendations have emerged by consensus of the respective units of the college. Points in each of the five issue areas developed in the project are discussed, followed by recommendations for consideration of the college community as a whole.

### **Occupational and Career Education**

#### **Recommendation 1--**

**The present practice of promoting the inclusion of everyone with responsibilities for Occupational and Career Education as active participants in program planning and assessment should be continued and strengthened whenever possible and feasible.**

When administrators and staff approach the task of program planning or assessment as equals it promotes a sense of "ownership" in the outcomes of their efforts. Even more importantly, it is more likely to make the best use of the wealth of inhouse expertise and talent than is a top-down planning or assessment process. Occupational and Career Education administrators and staff have adopted such a practice and it appears to be working effectively.

#### **Recommendation 2--**

**Administrators and staff (with assistance from persons external to the college) should develop a "vision statement" of what Occupational and Career Education at WITCC should be in the year 2000, incorporating both local employment trends and new developments in technology.**

The availability of such a statement will provide a basis for program direction and improvement efforts to be proactive rather than reactive in nature. It is assumed here that a statement of vision will not be a fixed one. It will need to be periodically reviewed and changed in the light of changing local economic, demographic and employment conditions, broader state concerns for the direction and funding of community colleges, and the like. It is suggested that the vision include occupational training in a global marketplace, emphasize the employment skills required in the present and the future (i.e., the "knowledge worker") and more clearly integrate advanced academic skills into technical curricula. This vision should not only represent the new college consensus, but should also be shared and clearly understood by all students in occupational and career programs.

**Recommendation 3--**

**The vision statement should be reviewed at least every three years.**

The review of the vision statement would need to consider changing labor market conditions, new or continuing directions for community colleges in Iowa, resources available to WITCC for occupational education, and the like. Once a revised statement is approved by staff and administrators, it should serve as an important base for decisions regarding new course/program initiatives, and decisions about retaining or improving programs.

## COMMUNITY AND CONTINUING EDUCATION

### Recommendation 4--

**The Community and Continuing Education Division should be recognized as having a central responsibility for marketing the college and its programs. This emphasis should be embellished and expanded through its vast array and network of community resources.**

Insofar as the newly developed mission statement of the Community and Continuing Education Division is broad and visionary, encompassing work done in both credit and non-credit areas, it should have not only the requirement to assist student movement on the continuum of learning, it should also control the resources and receive "credit" when students choose to come to WITCC. Insofar as data show that the vast majority of the future students of the college will come from the ranks of adults, their recruitment will be of a fundamentally different character than with more traditional students. As such, Community and Continuing Education will tend to interface with these prospective students to a far greater extent than will others. It makes the greatest sense, therefore, to formally designate this division with a formal recruitment and student marketing role, accompanied with appropriate resources to do the job.

### Recommendation 5--

**The college administration should begin planning the development of a college conference center to accommodate a growing area of continuing education activity.**

Continuing education is involved in direct services to the general community. Many times, these services involve drawing together persons with special interests or needs for particular types of information in a conference setting. These efforts often impinge upon existing college space or involve payment to local private vendors. The success of the division and its future plans may well justify the construction of a college conference center that can accommodate this growing need as well as those of other units of the college. These facilities could house the tele- and audio-networking capability of the college. This would greatly expand the capacity of the division and the college as a whole, as well as providing potential revenue base at least capable of offsetting its costs.

### Recommendation 6--

**Develop a "community resource handbook" for educational and other services for Siouxland as a whole to be utilized as a community development resource.**

Throughout the work of this project, community education staff referred to needs in both the information collection area, as well as improvement in its ability to disseminate it. Further, they noted that the college's image and presence needed to be improved, not only within the service area but outside of it as well, in the tri-state Siouxland region. One

way in which it can accomplish all of these goals at once is to develop an education/employment/community service resource guide for individuals in the entire area. This could be done in hardcopy, on-line, and in disk formats. Besides the revenue that would accrue, it would serve to establish the linkage between WITCC and the entire community, making it a resource for everyone in the greater Sioux City area.

#### Recommendation 7--

**The staffing pattern of the Community and Continuing Education Division should be embellished and enhanced to better reflect its new mission and purpose.**

The Community and Continuing Education Division should be positioned in the structure of the college to reflect its stature and importance as, in effect, the marketing and recruitment arm of WITCC. As it is not simply an instructional unit any longer, and will be even less so if the above recommendations are adopted, it should not be principally regarded as one either. It may be to the college's advantage to establish it as a unit of the college administration, given the breadth of its purposes and mission.

## ARTS AND SCIENCES

### Recommendation 8--

**The Arts and Sciences Unit should be elevated to the status of an instructional division co-equal with Occupational and Career Education.**

Growth in the arts and sciences area has been characterized by well-intended effort and significant, albeit slow, progress. Although all of the recommendations pertinent to the arts and sciences are designed to enhance and speed this development, one of its limitations has been an historic lack of visibility and unique identity within the college structure. Although the size of the effort at present is not in any way equal that of other instructional units of the college, the programmatic priority is such that it needs to receive the visibility to reflect its degree of emphasis and the leadership to develop it at the pace of the internal and external demand. Further, it is clearly indicated that a leadership position equivalent to other senior college staff be created in order to reflect these considerations.

### Recommendation 9--

**Arts and sciences should be given a very high priority in the allocation of resources at the college over the next 3 - 5 years.**

Fortunately, Title III will aid substantially in handling the start up costs of implementing a comprehensive arts and sciences program. Further, even though the project team has suggested cost-effective means of implementation of arts and sciences programs in the past, these should be regarded as only minimum measures for both cost and program development. As the development of these programs needs consideration now, so should the planning for recruitment of permanent faculty commence soon, despite what the short-term college-wide revenue picture may suggest.

However, its presence in Title III is not, by itself, sufficient. Its success will require a continued commitment on the part of the college administration, reflected by its emphasis in the budget.

### Recommendation 10--

**Coordinated programs between arts and sciences and community education should be developed in order to accommodate the needs of local industry for workplace literacy and enhanced communications skills training.**

The future of industry in the Siouxland community and that of the college are intertwined. Accordingly, the demographic realities with which each must deal are similar. Industry will have increasing need for workers better trained in literacy, numeracy, and communications. This is also an area in which WITCC can provide service and support.



**This support can increase revenue for both entities, resulting in many positive benefits including further allaying some of the costs of implementing the arts and science programs.**

## RESOURCE DEVELOPMENT

### Recommendation 11--

**The newly appointed director for Resource Development should prepare a resource development plan that includes strategies, implementing activities, timelines for them and estimated resources to be generated by each strategy.**

The resource development plan should be reviewed by the President of the college and then revised as needed. Following this review, it is recommended that a panel be convened to review the plan and to suggest how the plan might be improved. The panel might include WITCC faculty and staff persons as well as persons from the community at large.

The strategy should include:

- Specific plans for the development of the Foundation
- Linkages between the public information/relations and resource development efforts of WITCC
- Community involvement goals over a defined time period
- Revenue goals over a defined time period
- Identification of areas of potential program development through project/grant development.

Implicit in the above is the development of assessment instruments to evaluate progress.

The project team believes that this area should have a very high priority at the college and should target 1995 as an end date for the plan. The project team has determined that a goal of 25 percent of the total college budget can be supported through contracts, grants, and Foundation contributions by this date. Further, the Foundation can have a total membership equal to 5 percent of the Sioux City SMSA (approximately 5,500 people) by 1995.

## STUDENT SERVICES

### Recommendation 12--

**Student advising and counseling facilities and services should be expanded to better serve the diversity of students that now enroll in the college and which can be expected in the future.**

The nature of the student body at WITCC, now and certainly in the future, will involve increasing numbers of nontraditional students. These will involve new opportunities for the college and also involve new burdens. As their life situations are different from those of high school students, so will be the resources required to support them. Accordingly, there is a clear need for counseling, both individual and career services, to be expanded such that students truly have access to the wealth of opportunities they may receive in the new WITCC. Included in these services should be a college-wide pre-assessment of all students enrolled in courses for credit.

### Recommendation 13--

**Offices of WITCC should be opened in areas of high community access throughout the service area, particularly in more rural areas.**

Sioux City, as in other communities, conducts much of its business, both commerce and social, in local shopping malls and along central traffic corridors. Thus, shopping malls, for example, serve as community centers as much as markets for goods. Likewise, "main streets" serve as meeting places in smaller communities. Accordingly, WITCC could very cost-effectively open offices or even booths, in which its programs would be made available, registration arranged, and students enrolled throughout the service area. While this would provide the greatest convenience during the fall registration period, it could also serve to be an on-going reminder to the communities it serves of the presence of WITCC, its importance, and the opportunity its programming represents.

## COLLEGE-WIDE RECOMMENDATIONS

### Recommendation 14--

**The name of the college should be changed to better recognize its changed mission and goals.**

This suggestion has emerged repeatedly over the years. Given the degree to which the college has changed just over the past year, it is indicated now more than ever. It no longer serves just Western Iowa, and it no longer limits itself to "Tech." Accordingly, this must change. A repeated suggestion made by faculty, staff, and members of the community concerns renaming the college in honor of an individual closely identified with WITCC since its inception, perhaps as a part with the college's 25th anniversary celebration. This name might also be used in conjunction with a geographical reference more broadly conceived than "western Iowa." The project team, of course, has no firm opinion on this matter, recognizing it as wholly within the realm of college community. It does, however, suggest that serious consideration be given to this point in short order.

### Recommendation 15--

**The college should permit the new president considerable leeway in reorganizing the staff for greatest compatibility with a new leadership style.**

The retirement of Dr. Kiser closes a chapter of birth, growth, and maturity at WITCC. While he cannot truly be replaced, he will be succeeded by an individual that will want to continue many things, but possibly in a style and with areas of interest and expertise that are different from those of Dr. Kiser. Accordingly, both the staff and the board should anticipate that it is appropriate for a reorganization of the staff and administration to occur.

### Recommendation 16--

**Credit and non-credit courses should be articulated throughout the college curriculum.**

The future of the college clearly rests on its ability to appeal to the community as an asset that is flexible and responsive to the great variety of the needs of its members. One highly visible and extremely valuable change that it could make would be to reconstruct all non-credit courses such that they could, in some way, contribute directly into a degree, diploma, or certificate program at the college. Indeed, the project staff feels so strongly about this that it would suggest that the ability of any non-credit course or program to be "bridged" to the credit curriculum be a major criteria for its inception.

**Recommendation 17--**

**All instructional programs at the college should be assessed formally and on a predetermined schedule for program improvement purposes.**

College staff and administrators are familiar with on-site assessment procedures for many educational programs. It is therefore not necessary to discuss or describe them here. What is important is that any formal process be perceived by administrators and staff as proactive and constructive in purpose rather than reactive and fault-finding in nature.

**Recommendation 18--**

**The college might wish to also consider implementing a performance-based process for the assessment of all instructional programs.**

WITCC staff and administrators may not be familiar with a performance-based assessment process that relies on agreed upon criteria (performance indicators) and criterion or performance measures that are quantitative in nature. Such a process would make good use of the college's management information system currently under a major revision.

**Recommendation 19--**

**Increased emphasis should be placed on the enrollment and support of "special needs/populations" individuals such as minority, disabled, and bilingual students.**

The demographic trends within the community at large and specific to the college indicate an increase in the number of prospective students in non-traditional categories. Effectively serving this "market" requires more than simply nominal services directed toward them. The college needs to invest in the counseling, developmental education, and faculty resources to assist these students to both effectively cope with college life and to realistically pursue advanced degrees. Specifically, the development of language lab and a bilingual capability in the college would assist those dealing with language barriers, as would a larger portion of minority faculty and disabled services assist in those areas. In sum, for the college to truthfully and effectively portray the college as being accessible to the entire community, it must be able to show concrete actions that ensure such accessibility.

## Recommendation 20--

**As a comprehensive community college, WITCC should ensure that every student, regardless of entry-point or program, has the opportunity to achieve an associates' degree, its principal product.**

WITCC is a community college. Its promise to the community is as guarantor and provider of access to higher education. As such, while it indeed can serve those narrowly interested in either purely occupational or recreational pursuits, it is principally a resource for the educational progress of the community. In this respect, its "market niche" is that set of individuals that have not yet completed the baccalaureate degree, some 80-85 percent of the local population. Its first job, then, is the granting of associates' degrees. **This is not to say that the college should discontinue diploma and certificate programs.** Rather, these can be viewed as points of individual progress, irrespective of whether the pursuit is in the vocational-technical or arts and sciences areas. Therefore, it is of great importance to ensure that all courses and programs represent some point on a continuum toward the student's accomplishment of their long-term degree goal.

Further, it is critical that the sequence of courses and programs leading to the associates' degree be made clear, making those who are or have done coursework at the college be seen as a market to be aggressively recruited. Finally, the college should foster the development of a common core of courses across divisions. Lines that all degree-seeking students will take, arranged at convenient times, places, and styles designed to accommodate the adult student that represents the future of the college.

Once again, the project team feels strongly that all college courses, credit or non-credit, be articulated such that they encourage a student to continue ultimately toward the degree. Indeed, it would further suggest that the only exceptions to this principle occur in cases in which the marginal benefits to both the college and the community are very compelling, enough so that it becomes purposeful to distract the college from its main mission. The project team suggests that instances of this will be rare indeed.

## APPENDIX

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## **THE SIOUXLAND EMPLOYMENT CONTEXT —AN OVERVIEW—**

The current business climate in Siouxland shows a relatively constant unemployment rate of approximately 4.2 percent for 1989 and 1990 with a substantial increase in the number of employed persons working part-time.

Employment statistics indicate a difficult recovery in Iowa. Iowa is experiencing a 54-month employment decline. Statistical data as well as the generally held consensus of community and business individuals who were interviewed is that Iowa is in an extended downturn in employment. The Siouxland area has, however, shown a consistent recovery in employment since 1982 or 1983. Nevertheless, the local economy continues to be "soft" since wages are relatively low (i.e., median hourly wage is about seven dollars. Employment increases are primary in the service sector which is likely to be adversely affected by any recession. Traditionally, service sector employers pay very low wages, and there is a growing tendency in the service sector to employ persons on a part-time basis.

There is a process of restructuring of the workplace, regionally. Jobs in manufacturing and construction have noticeably declined after 1982. Experiences by the local Job Services office indicate that employment in manufacturing and construction continues to be stable with no indication of any substantial change unless there is a downturn in the economy. Higher paid manufacturing incomes are decreasing and there is slow growth in the service industries. Reasons for such slow growth include: slow population growth, slow growth in personal income, and constrained expansion of business services due to shrinkage of the manufacturing base.

Census figures indicate an increase in the single adult population and in particular of minority persons. Increases in the workforce will, in large part, be made up of minorities and women. Many of these persons will require additional literacy and math skills if they are to obtain employment. These workers may constitute an increase in the supply of unskilled workers and thereby further depress average hourly wages paid by employers.

Many of the job opportunities that are potential ones for the region will require workers that have more than minimum communication and reasoning skills. Many of these persons may also need an arts and sciences background including economic education. A number of the employers who were interviewed by project team members underscored that there is a crisis situation with regard to the inadequate level of general education attainment by many employed persons.

Aggressive outreach activities by the business community, the geographic location and the good infrastructure of highway, rail, barge and air combined with a better than adequate educational and medical base can provide the area with good drawing cards for business immigration. The midwestern work ethic and the labor pool of underemployed skilled and

unskilled workers constitute a low wage environment pleasing to many businesses. In addition, South Dakota offers a favorable climate for business in-migration or expansion through no corporate income or personal property tax. This business incentive creates benefits for the entire metropolitan area.

There is activity locally (e.g., the Siouxland Initiative) to import new business including small industrial and manufacturing firms, electrical assembly operations, insurance services, credit card/financial services, health care, and food processing. To the extent that the Siouxland Initiative succeeds, it would mean new jobs but it is uncertain how this would affect the need for institutional-based or employer-based training.

A 216 acre business park (the Dakota Dunes Project), a project of Midwest Energy Company, is being marketed as one that will attract highly technical and research facilities. To the extent that this project succeeds, the entire area will benefit through an increased payroll of professional level salaries and through construction of plants, homes, recreational facilities and service businesses. The success of the Dakota Dunes Project could also lead to a regional transportation and manufacturing hub since Omaha, Lincoln, Des Moines, Sioux Falls, Kansas City and Minneapolis are within a 300-mile radius.

There exists a growing trend to push the provision of medical services out of St. Luke and Marion Hospitals and into the home, doctors' offices, social welfare program providers, and other personnel. At the current time the labor pool of medical personnel will not satisfy the increasing demands that are likely to come about for off-site medical services.

Agricultural-based firms are expected to increase vertical integration of the packaging process. This may require an undetermined number of clerical, office, and computer-trained personnel as well as meat cutters, transportation workers, marketers, and sales persons.

In labor markets such as Siouxland, employers tend to reduce the number of full-time workers to a minimum. This kind of environment puts pressures on employees to maintain and extend existing skills or gain new ones in order to compete for full-time employment.

## CRITERIA FOR IMPLEMENTING NEW PROGRAMS

### ACCEPT CRITERIA

### CRITERIA

YES NO UNDECIDED

1. CURRENT DEMAND FOR NEW WORKERS IN OCCUPATION(S) FOR WHICH TRAINING IS BEING CONSIDERED
2. FUTURE DEMAND FOR NEW WORKERS IN OCCUPATION(S) FOR WHICH TRAINING IS BEING CONSIDERED
3. RATE OF GROWTH OF OCCUPATION(S) FOR WHICH TRAINING IS BEING CONSIDERED
4. EMPLOYERS' REQUESTS FOR TRAINED WORKERS IN OCCUPATION(S) FOR WHICH TRAINING IS BEING CONSIDERED
5. TYPICAL ENTRANCE WAGE
6. TYPICAL WAGE AFTER 1 YEAR OF EMPLOYMENT
7. DEGREE OF EMPLOYMENT STABILITY IN OCCUPATION(S) FOR WHICH TRAINING IS BEING CONSIDERED [LAYOFF HIST.; FT vs. PT EMPLOY]
8. DEGREE TO WHICH PRINCIPLES OF AFFIRMATIVE ACTION ARE PRACTICED BY EMPLOYERS OF GRADUATES LOCALLY AND REGIONALLY
9. AVAILABILITY OF REGULAR FACULTY FOR THE PROPOSED PROGRAM
10. AVAILABILITY OF REGULAR FACULTY FOR THE PROPOSED PROGRAM
11. AVAILABILITY OF ADJUNCT FACULTY FOR THE PROPOSED PROGRAM
12. AVAILABILITY OF COMPETENCY-BASED CURRICULUM MATERIALS
13. ADEQUACY OF PRESENT FACILITIES TO HOUSE PROPOSED PROGRAM
14. EASE OF ACCOMMODATING EDUCATIONALLY DISADVANTAGED
15. EASE OF ACCOMMODATING PHYSICALLY HANDICAPPED
16. EXTENT OF STUDENT INTEREST IN THE PROPOSED PROGRAM
17. EXTENT OF EMPLOYER INTEREST IN PROPOSED PROGRAM
18. AVAILABILITY OF OTHER SIMILAR TRAINING OPPORTUNITIES, LOCALLY
19. LIKELY EXTENT OF START-UP COSTS FOR THE PROPOSED PROGRAM
20. LIKELY EXTENT OF RECURRENT (OPERATING) COSTS FOR THE PROPOSED PROGRAM

## CRITERIA FOR CONTINUING PROGRAMS

**ACCEPT CRITERIA**

**CRITERIA**

| YES | NO  | UNDECIDED |   |
|-----|-----|-----------|---|
| --- | --- | ---       | 1. CURRENT DEMAND FOR NEW WORKERS IN OCCUPATIONS FOR WHICH TRAINING IS OFFERED                            |
| --- | --- | ---       | 2. FUTURE DEMAND FOR NEW WORKERS IN OCCUPATIONS FOR WHICH TRAINING IS OFFERED                             |
| --- | --- | ---       | 3. RATE OF GROWTH OF OCCUPATIONS LOCALLY REGIONALLY   |
| --- | --- | ---       | 4. EMPLOYERS' REQUESTS FOR TRAINED WORKERS IN OCCUPATIONS FOR WHICH TRAINING IS OFFERED                   |
| --- | --- | ---       | 5. DEGREE OF EMPLOYMENT STABILITY IN ASSESSED OCCUPATIONS   |
| --- | --- | ---       | 6. DEGREE TO WHICH PRINCIPLES OF AFFIRMATIVE ACTION ARE PRACTICED BY LOCALLY-BASED EMPLOYERS OF GRADUATES |
| --- | --- | ---       | 7. AVAILABILITY OF REGULAR FACULTY  |
| --- | --- | ---       | 8. NEED TO INCREASE NUMBER OF REGULAR FACULTY   |
| --- | --- | ---       | 9. AVAILABILITY OF ADJUNCT FACULTY  |
| --- | --- | ---       | 10. AVAILABILITY OF COMPETENCY-BASED CURRICULUM MATERIALS   |
| --- | --- | ---       | 11. ADEQUACY OF PRESENT FACILITIES  |
| --- | --- | ---       | 12. EASE OF ACCOMMODATING EDUCATIONALLY DISADVANTAGED   |
| --- | --- | ---       | 13. EASE OF ACCOMMODATING PHYSICALLY HANDICAPPED  |
| --- | --- | ---       | 14. EXTENT OF STUDENT INTEREST  |
| --- | --- | ---       | 15. EXTENT OF EMPLOYER INTEREST   |
| --- | --- | ---       | 16. AVAILABILITY OF OTHER TRAINING OPPORTUNITIES, LOCALLY   |
| --- | --- | ---       | 17. EXTENT OF START-UP COSTS  |
| --- | --- | ---       | 18. EXTENT OF RECURRENT (OPERATING) COSTS   |

**ACCEPT CRITERIA**

**CRITERIA**

| YES | NC  | UNDECIDED |   |
|-----|-----|-----------|---|
| --- | --- | ---       | 19. EXTENT OF GRADUATES TO PROGRAM CAPACITY                         |
| --- | --- | ---       | 20. EXTENT OF STUDENT DROPOUT FROM PROGRAM DURING SCHOOL YEAR       |
| --- | --- | ---       | 21. THE EXTENT OF OPENING ENROLLMENT TO FIRST YEAR PROGRAM CAPACITY |
| --- | --- | ---       | 22. MEDIAN ENTRY LEVEL WAGE FOR OCCUPATION                          |
| --- | --- | ---       | 23. MEDIAN WAGE AFTER 1 YEAR OF EMPLOYMENT                          |

## WORKSHOP OUTLINE

### Overview of Workshop

- A. Purposes of workshop ---Bob Dunker
- B. Review of previous workshop ---Harold Starr
- C. Overview of workshop tasks and schedule---Bob Dunker and Harold Starr

### The Need for Planning New Programs or Continuing Existing ones---Workshop Session 1

What should be the nature of vocational/technical programming at WITCC?

#### Areas of Concern

1. Employment Context
2. Employers' Needs for Trained Workers
3. Peoples' Needs for Job Skills
4. System Capacity to Meet Employers' and Peoples' Needs for Training

#### Questions for group discussion:

- o Are there or will there likely be short-and/or long-term needs for trained workers in the Siouland region, state or larger region; and if there are such needs, how many persons are or will be needed and with what kinds of skills?
- o Is institutionally-based vocational/technical education the only or the best alternative for meeting demands for identified skilled labor needs given the economic, demographic and social characteristics of Siouland?
- o Which employment needs can best be met by offering institutionally-based vocational/technical education programs and what is the rationale for them?
- o Should special services try to compensate for a lack of employability skills of potential students or should programs be selected that make the least demands on those with employability skills handicaps?

- o Are there adequate numbers of persons who are likely to need, desire, and profit from vocational/technical education programs to warrant continuing existing programs or implementing new programs?
- o What practices are or should be used to enroll students in WITCC and what is their rationale?
- o Should the benefits of vocational/technical education programs be to enable completers to be competitive in the labor market and/or guarantee them employment?
- o Should any vocational/technical programs be offered on a "permanent" basis, or should all programs be selected around a finite period of time subject to renewal based on continuing need, or should there be a mix? What is the rationale for selecting one of these three options?
- o What do you perceive to be the difference between a "vocational" program and a "technical" program?
- o What should be the balance of vocational as opposed to technical programs at WITCC?
- o What new vocational/technical programs should be offered at WITCC and which existing ones should be modified or deleted on the basis of the discussions today? Why?
- o What are the major constraints to moving forward with a new vision for vocational/technical education at WITCC and what strategies and tactics should be used to address them?
- o What other questions need to be asked and what kinds of additional information would be helpful in answering the preceding questions?

## **How to Select New Programs and Improve or Plan to Terminate Ongoing Ones---Session 2**

### ***The Current Situation***

- o What methods are currently used for evaluating division offerings and how helpful are they for selecting new programs and improving or terminating ongoing ones?
- o Are better methods needed and if so what might they be?



- o What is the likelihood of new planning and evaluation methods being accepted by staff?
- o Should planning and evaluation of vocational/technical education programs be more databased?
- o If a more databased approach is advisable, when should it be implemented and what actions or activities will need to be in place to ensure its acceptance?

### ***Alternative Planning and Evaluation Methods***

Two program planning and evaluation methods are described below. These methods are described in a series of publications authored by Starr et. al.<sup>1-6</sup> The first method is the *Fatal Flaw Analysis Method*. It is useful for selecting among a set of candidate occupations (for which programs can be developed) the one(s) that best meet a set of selection criteria. The second method, and one that can be used for both program planning and evaluation, is the *Feature Analysis Method*. Each of these two methods is described below.

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<sup>1</sup>H. Starr, H. Merz, and G. Zahniser. **Using Labor Market Information for Vocational Planning**. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1982.

<sup>2</sup>H. Starr. **The Development of a Practical Model for Planning Vocational Training. A Post-Seminar Report**. Singapore, Republic of Singapore: The Vocational and Industrial Training Board, 1984.

<sup>3</sup>H. Starr. **The Development of a Practical Model for Planning Vocational Training. In Management Information System for Vocational Education and Training--Final Report (ASEAN-Australian Development Education Project--Educational Management Information System)**. Singapore, Republic of Singapore: The Vocational and Industrial Training Board, 1984.

<sup>4</sup>H. Starr. **Increasing Vocational Education Program Relevance: A Data-Based Approach**. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1987.

<sup>5</sup>H. Starr. **The Evaluation Index**. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1988.

<sup>6</sup>G. Grossman and H. Starr. **An Evaluation Method and Context Statement for Evaluating and Planning Job Preparation Courses** (Cleveland City School District, Cleveland Ohio). In Progress.

## ***The Fatal Flaw Analysis Method***

The fatal flaw analysis method is useful mainly when there is a short timeframe for conducting program planning and it is possible to select criteria that lend themselves to quantification.

In the context of vocational/technical education program planning and evaluation, the fatal flaw analysis method encompasses four steps:<sup>1</sup>

1. Selection criteria are established for selecting among candidate occupations the one(s) for which a vocational/technical program will be implemented. The selection criteria which are established are judgmentally derived from a specific training and employment problem (e.g., the need for displaced workers to be retrained for other kinds of substantial gainful employment).
2. A pass/fail discriminatory value is established for each selection criterion.
3. Candidate occupations are identified and the selection criteria and the discriminatory (pass/fail) values are applied to each of them.
4. An occupation is selected for program development and implementation because it meets all of the valued selection criteria (i.e., it has no "fatal flaws"). An optional outcome is to select more than one occupation as the basis for program planning if more than one occupation has no more than a predetermined number of "fatal flaws."

If too many "winners" result from the application of the selection criteria, either more criteria need to be developed or the discriminatory values assigned to selection criteria might need to be made more stringent. If there are no "winners," the selection criteria and/or their discriminating values need to be made less stringent.

Table 1 depicts a sample of criteria for selecting among occupations as well as their accompanying discriminatory values. The selection criteria in this example might be appropriate when the planning problem is one of determining what programs might be most suitable for implementation to serve dislocated workers. Table 2 depicts the application of the criteria and discriminatory values to a set of candidate occupations.

**TABLE 1**

**Selecting Occupations by the Fatal flaw Analysis Technique  
---Selection Criteria and Discriminatory Values---**

| <b>Criteria</b>  | <b>Value If:</b>                                    |
|--|---|
| 1. Net openings for workers in each occupation         | More than 50 average annual                         |
| 2. Growth trends in job openings                       | Positive  |
| 3. Entry wages   | Average or above for region                         |
| 4. Start-up costs for programs to train for occupation | Average or lower for region                         |
| 5. Restrictions on hiring                              | No restrictive patterns<br>by sex or race in region |
| 6. Location of Employment                              | Within 35 mile radius of City                       |

**TABLE 2**

**Selecting Occupations by the Fatal Flaw Analysis Method  
---Examining Candidate Occupations and Selecting a Winner---**

| <b>Criteria</b>          | <b>Criteria</b>          |                          |                        |                           |                               |                  | <b>Winners</b> |
|--------------------------|--------------------------|--------------------------|------------------------|---------------------------|-------------------------------|------------------|----------------|
|                          | <b>Net Job<br/>opens</b> | <b>growth<br/>trends</b> | <b>entry<br/>wages</b> | <b>start-up<br/>costs</b> | <b>hiring re-<br/>stricts</b> | <b>location-</b> |                |
| <b>Occupations</b>       |                          |                          |                        |                           |                               |                  |                |
| <b>Auto Tech</b>         | x                        | x                        | x                      | x                         | x                             | x                | yes*           |
| <b>Auto Mechanic</b>     | x                        | x                        | --                     | x                         | x                             | x                |                |
| <b>Aircraft Mechanic</b> | x                        | x                        | x                      | --                        | --                            | x                |                |
| <b>LPN</b>               | --                       | x                        | --                     | x                         | x                             | x                |                |
| <b>Machine Op</b>        | x                        | --                       | --                     | x                         | x                             | --               |                |

\*If all six factors are to be valued. If five valued factors are acceptable, then Auto Mechanic would also be a "winner."

## The Feature Analysis Method

The feature analysis method like that of the fatal flaw method is a databased approach to vocational/technical education program planning. The feature analysis method is, however, more complex and time-consuming to formulate and implement. Also, in this method, there are no "winners" in the sense described above. Rather, occupations are *ranked* with respect to relative desirability for program development and implementation or *ranked* with respect to relative need for program improvement. This method can be extended to enable users to differentially and explicitly value (weight) evaluation and planning criteria. Lastly, regression analysis and correlation analysis can be applied to determine which criteria best predict program desirability or to relate such things as educational inputs or processes to outputs and outcomes. The feature analysis method may use the same pass/fail data normalizing technique as does the fatal flaw method or a data normalizing technique comprised of an arbitrary range of discriminating values (i.e., one to four or zero to five) for each criterion. An example of the latter normalizing technique is depicted in Exhibit 2.

The feature analysis method for planning and evaluating vocational/technical programs includes three major components: (1) an information selection process, (2) a scoring process and (3) a ranking process.

Information selection. The information selection process involves the systematic identification of selection criteria for program planning or performance categories and performance indicators for program evaluation (see exhibits 1 and 2). The information selection framework is used that is organized around five components (i.e., the context for vocational education, the educational process, program output, program outcomes, and program benefits). As an example for the educational process component of the framework, *instructional design* may be chosen as an information category and *the extent to which occupational preparation program curriculum is competency based* may become a performance indicator.

One or more sets of performance measures are then formulated for each performance indicator. In the case of instructional design one such measure might be that *"The curriculum is fully competency based."* Another measure might be that *"The curriculum is partially competency based and there is evidence that it will be fully competency based within the next school year."*

The bulleted statements listed in exhibit 1 represent potential indicators of relative performance by which to judge the quality of vocational/technical education programs or courses. (e.g., the closer a program or course comes to meeting sex and minority goals set by the college or department with regard to enrollment the better it has performed; the less costly a course is to operate within its career cluster the better it has performed).

**Scoring.** Each of the measures comprising a set of measures for a particular performance indicator is assigned a "normalized" score. This procedure permits a solution to a common evaluation problem: how to compare and deal with seemingly dissimilar kinds of useful evaluative data such as determining which of two kinds of job preparation programs is most in need of improvement if offering A has a 85 percent completion rate and a 50 percent placement rate and offering B has a 91 percent completion rate and a 63 percent placement rate.

**Ranking.** The ranking process includes several steps. First, users systematically value (weight) the different components of the information framework which in turn results in differential weighting for selection criteria or performance indicators. This step is optional. Second, scores (weighted or raw depending on the option selected) for all of the selection criteria or performance indicators are added. Third, the occupations or programs are ranked in accordance with the total scores each has attained.

In the proposed evaluation, school administrators can review the relative program rankings and use this information as they attempt to determine those programs which are adequate for meeting student needs, those which require improvement, and those which after additional more intensive review may be considered inappropriate for continuation. The proposed method is intended to compliment rather than replace traditional subjective/observational methods of evaluating vocational education programs.

## Exhibit 1--Performance Indicators

The bulleted statements listed in exhibit 1 represent potential indicators of relative performance by which to judge the quality of vocational/technical education programs or courses. (e.g., the closer a program or course comes to meeting sex and minority goals set by the college or department with regard to enrollment the better it has performed; the less costly a course is to operate within its career cluster the better it has performed).

### PERFORMANCE INDICATORS

- The extent to which there was sex equity in enrollments in vocational/technical courses.
- The extent to which there was equity in enrollment of minority students in vocational/technical education courses.
- Relative costs associated with operating vocational/technical courses.
- The extent to which vocational/technical course curricula are competency based.
- The extent of opening enrollment to first year course capacity.
- The extent of graduates to course capacity

Exhibit 2--A performance indicator and its associated performance measures and scores

**Performance Indicator: *Relative costs associated with operating technical/vocational courses.***

**Performance Measure and Scores:**

- [4] Compared with the other courses in its career cluster, this course had the lowest per-student operating cost.
- [3] In its career cluster, this course ranked below the median with regard to per-student operating cost.
- [2] In its career cluster, this course ranked at or above the median with regard to per-student operating cost.
- [1] Compared with the other courses in its career cluster, this course had the highest per-student operating cost.
- [0] No or insufficient data are available for this course.