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ABSTRACT

Part of an annual review of occupational/technical programs at Piedmont Virginia Community College (PVCC), this report describes enrollment, graduation, and placement outcomes for PVCC's Associate of Applied Science and certificate programs. Following an executive summary and introduction, the report presents data on program outcomes related to graduation and enrollment for 1990-95; retention, employment, and graduate satisfaction rates for 1989-90 to 1993-94; transfer outcomes for 1989-90 to 1993-94; trends in the job market for occupational/technical careers for 1990 to 2005; the percent of the labor supply represented by PVCC graduates; and program costs for 1994-95. Thirteen recommendations are then reviewed for improving program outcomes. Individual program reviews are then provided by the college's Assessment Committee, summarizing outcomes and recommendations for the Business and Management (BM) degree, including the accounting, general management, and marketing programs; Business and Office (BO) degree; Computer Information Systems (CIS) degree; Electrical/Electronics Technology degree; Mechanical Technology degree; Nursing program; Protective Services degree; Administration of Justice certificate; and Automotive Technology certificate. Programs reviews are then provided by the Chair of the Business Technologies division for the BM, BO, and CIS degrees and Police Science program, and an overall review is provided by the Chair of the Science and Technology division. Finally, tables are provided by program of the base data elements used in reviewing programs and data used in productivity reviews of the college's academic programs. (HAA)

Report on Occupational/ Technical Programs at Piedmont Virginia Community College

Research Report No. 2-96
November 1996

Piedmont Virginia Community College
Charlottesville, Virginia

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REPORT ON OCCUPATIONAL/TECHNICAL PROGRAMS AT PIEDMONT VIRGINIA COMMUNITY COLLEGE

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Charlottesville, Virginia 22902
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REPORT ON OCCUPATIONAL/TECHNICAL PROGRAMS AT PIEDMONT VIRGINIA COMMUNITY COLLEGE

Executive Summary

Report on Occupational/Technical Programs at Piedmont Virginia Community College addresses one of the major strategic planning priorities of Piedmont Virginia Community College (PVCC) for 1995-96--a thorough assessment of the college's occupational/technical programs. The college's occupational/technical programs consist of seven Associate of Applied Science (AAS) programs--Business and Management, Business and Office, Computer Information Systems, Electrical/ Electronics Technology, Mechanical Technology, Nursing, and Protective Services--four certificate programs--Administration of Justice, Automotive Mechanics, Business and Office, and Culinary Arts--and ten career studies certificates. An assessment of career studies certificates and the certificate program in Culinary Arts was not conducted because data were not readily available.

The report provides an analysis of each program's strengths and weaknesses with respect to graduation rates, enrollment, retention rates, employment trends, program satisfaction of graduates, college transfer trends, job market conditions, local supply data, and cost. Additionally, recommendations for follow-up activities in 1996-97 are presented. Highlights of the report are listed below.

Graduation Rates. While the Associate of Applied Science (AAS) in Nursing program graduates an average of seven times as many graduates as required by the State Council for Higher Education in Virginia (SCHEV), and the program in Business and Management graduates nearly three times as many, the programs in Business and Office, Electronics, and Mechanical Technology do not meet the SCHEV standard of seven graduates per year over a five-year period. The two remaining AAS programs--Protective Services and Computer Information Systems--barely exceed the standard. One certificate program, Automotive Technology, graduates an average of less than one student per year.

Enrollment. The only AAS program failing to meet the SCHEV standard of an average of 17.5 FTES each year is Mechanical Technology. The certificate program in Automotive Technology enrolls on average less than two FTES each year, and the certificate program in Administration of Justice enrolls less than one. Average headcount figures range from 185.6 for the AAS program in Business and Management to less than three for the two certificate programs.

Retention Rates. Retention rates among the programs range from 33.3% for the certificate program in Administration of Justice to 66.7% for the certificate program in Automotive Technology.

Employment. The SCHEV criterion for employment status relates to the percentage of all graduates who are employed in program-related work, are pursuing further study, or have identified the program as "significantly contributing to their functioning as citizens and workers." Four AAS programs--Mechanical Technology, Electronics, Nursing, and Business and Management--fully meet the SCHEV criterion; two other AAS programs--Business and Office and Computer Information Systems--as well as the two certificate programs--partially meet the criterion; and the AAS program in Protective Services do not meet the criterion.

Satisfaction with Academic Preparation. For the most part, respondents to the graduate follow-up survey administered each year are quite satisfied with the academic preparation they received at PVCC. The only programs in which 20% or more of the respondents indicate their preparation was either fair or poor (using a scale of excellent, good, fair, and poor) are the AAS programs in Mechanical Technology and Computer Information Systems. Employers are also quite satisfied with the academic preparation received by PVCC graduate survey respondents whom they hire. Most employers rate the technical job skills of PVCC graduates as either excellent or good.

College Transfer. Although occupational/technical programs are not designed for transfer purposes, many students and graduates do continue their education at four-year colleges and universities. The programs transferring the largest numbers of graduates are Business and Management (AAS), Protective Services (AAS), Nursing (AAS), and Administration of Justice (Certificate). In almost all programs, graduate survey respondents rate their academic preparation for college transfer as either excellent or good.

Job Market Data. The projected growth rate in workers employed both locally and statewide between 1990 and 2005 is 18%. Jobs related to all of the occupational/ technical programs, with the exception of Mechanical Technology which is expected to lose jobs in the Charlottesville Metropolitan Statistics Area (MSA), meet or exceed this figure.

Local Supply Data. Four of the occupational/technical programs--Business and Office (AAS), Nursing (AAS), Protective Services (AAS), and Administration of Justice (Certificate)--provide all of the workers for the Charlottesville MSA. The remaining programs provide less than half of all the workers within the region.

Cost. Utilizing available data, all of the AAS programs, with the exception of Nursing and Electronics, fully meet the SCHEV criterion of having a cost-to-student-credit-hour ratio of 50% or less than the ratio of all programs combined. However, the methodology for calculating actual program costs is not as sophisticated as might be desired and should be revised in 1996-97.

Several general recommendations emerge from the report. These are summarized below.

Using the data and information contained in this report as a starting point, as well as any additional data division chairs or program faculty feel are needed, an action plan for each occupational/technical program should be developed in 1996-97. The new procedures for academic program review, adopted by the college's Curriculum and Instruction Committee, should be followed in developing these action plans. Each action plan should address program strengths, indicating how these will be maintained, as well as program weaknesses, indicating how these will be corrected. Any specific recommendations in the *Report on Occupational/Technical Programs* which apply to the program should be addressed as well. Completed action plans should be submitted for approval to the Dean of Instruction and Student Services by division chairs.

A process for determining when to place programs on probation and when to eliminate them needs to be developed. The process should be comprehensive and equitable, employing an objective set of standards. The SCHEV criteria for graduation, enrollment, employment, and cost should play an important role here, but should not be the only criteria considered. Local employment trends, retention rates, special populations served by a program are just a few of many other factors which might go into the process. The action plans developed for each of the college's occupational/technical programs should be evaluated against these standards so that by the end of the 1996-97 academic year, any programs targeted for probation or elimination are clearly identified.

A final recommendation is that any further examination or restructuring of the college's occupational/ technical programs should take place within the context of *Agenda for Change: The Restructuring Addendum to the Strategic Plan*. This document, first published in August 1995, examines the college's mission and defines its "mission core." The "mission core" consists of (1) preparation for college transfer and (2) workforce development. Clearly, occupational/technical programs at PVCC support workforce development, and any assessment of these programs must be undertaken with this in mind.

REPORT ON OCCUPATIONAL/TECHNICAL PROGRAMS AT PIEDMONT VIRGINIA COMMUNITY COLLEGE

Introduction

In August 1995, Piedmont Virginia Community College (PVCC) published *Agenda for Change: The Restructuring Addendum to the Strategic Plan*, a document updating the strategic plan adopted by the college in 1992. The most important concept developed in *Agenda for Change* was that of the *mission core*, "a reinterpretation of the college's comprehensive community college mission . . . [which] both identifies the foundation upon which all other college activities will be built and defines the absolutely essential nature of what we do, who we are, and to which activities we will assign priority." (p. 5) The mission core at PVCC, as defined in *Agenda for Change*, consists of two parts, (1) preparation for college transfer and (2) workforce development.

Workforce development is defined as "those education and training programs focused specifically on meeting the needs of the individual worker and area employers." (p. 7). One of five guiding principles of workforce development is "that the purpose of the college's occupational/technical program will be to serve both the local business interests of the community and the broader educational and training needs of the student." (p. 7)

This *Report on Occupational/Technical Programs at Piedmont Virginia Community College* addresses this guiding principle, and at least in a preliminary sense, fulfills one of the areas of exploration called for by *Agenda for Change*--"a thorough assessment of all current occupational/technical programs should be conducted. This assessment should include follow-up data on students and employers." (p. 8)

This report really consists of five different reports. This first section, written by the author, who at the time this was first written served not only as Director of Institutional Research and Planning but as Acting Dean of Instruction and Student Services, summarizes the strengths and weaknesses of the college's occupational/technical programs as a whole and issues recommendations for follow-up work in 1996-97. The second section consists of reports requested by the author as acting dean from the Assessment Committee on the strengths and weaknesses of each occupational/technical program, and the third section consists of reports requested by the author as acting dean from division chairs on the strengths and weaknesses of individual occupational/technical curricula in their divisions.

The actual data used to determine strengths and weaknesses are presented in sections four and five. Section four consists of common data elements requested by the Assessment Committee, and section five consists of accountability measures developed by the State Council of Higher Education for Virginia (SCHEV) for conducting

productivity reviews of college curricula. For programs which were not "triggered" for program review by SCHEV in the spring of 1996, assessment results and a provost's statement are missing. All data were collected by the college's Office of Institutional Research and Planning.

The report format, for the most part, follows the revised guidelines proposed by the Assessment Committee for academic program review. These guidelines essentially seek answers to the following questions:

1. What trends have occurred with respect to enrollment, retention, and graduation in this program?

2. Do graduates of this program find employment in their field?

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?

4. Does it appear that a significant number of students in this program transfer to four-year schools? If so, does the curricula support both transfer and non-transfer student goals?

5. Do the job market data from the college's service region indicate that a need continues to exist for this program?

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?

7. Is the ratio of program costs to student credit hours in this program higher, lower, or about the same as that for the college as a whole?

Each one of these questions is addressed in one of the sections which follows, and specific recommendations for follow-up in 1996-97 are presented.

Graduation, Enrollment, and Retention

1. **Graduation Rates.** Graduation rates for the college's occupational/technical programs are shown in Table 1.

Table 1: Graduation Rates (1990-91 - 1994-95)

Program	5-Year Average (1990-91 through 1994-95)	Pct. of SCHEV Criteria
Nursing (AAS)	46.0	657.1%
Business and Management (AAS)	18.2	260.0%
--Accounting	6.6	--
--General Management	9.4	--
--Marketing	2.2	--
Protective Services (AAS)	10.2	145.7%
Computer Information Systems (AAS)	9.4	134.3%
Administration of Justice (Cert.)	7.2	N/A
Business and Office (AAS)	5.0	71.4%
Electrical/Electronics Technology (AAS)	4.0	57.1%
Mechanical Technology (AAS)	1.4	20.0%
Automotive Technology (Cert.)	0.6	N/A

All Associate of Applied Science (AAS) degree programs must graduate an average of seven students each year to meet the SCHEV graduation criterion. As can be seen, Nursing, Business and Management, Protective Services, and Computer Information Systems meet this criterion, while Business and Office, Electrical/Electronics Technology, and Mechanical Technology do not. Certainly, strategies for graduating more students should be developed for the three programs not meeting the SCHEV criterion. In fact, because the graduation rates for Protective Services and Computer Information Systems are not much higher than the standard, strategies should also be developed for these programs. Within the Business and Management program, the number of graduates in Marketing is low, and strategies need to be developed to increase the number. With respect to the two certificate programs, the number of graduates in Administration of Justice appears to be growing, but the number of graduates in Automotive Technology is so low as to call into question the need for the program.

Recommendation: Strategies should be developed by division chairs and program faculty for increasing the number of graduates in the following programs: Business and Office (AAS), Electrical/Electronics Technology (AAS), Mechanical Technology (AAS), Protective Services (AAS), Computer Information Systems (AAS), Business and Management--Accounting (AAS), and Automotive Technology (Certificate).

2. **Enrollment.** Full-time equivalent student (FTES) Enrollment for the college's occupational/technical programs is shown in Table 2.

Table 2: FTES Enrollment (Fall 1990 - Fall 1995)

Program	5-Year Average (Fall 1990-Fall 1995)	Pct. of SCHEV Criteria
Business and Management (AAS)	76.0	434.3%
--Accounting	25.6	–
--General Management	42.4	–
--Marketing	8.0	–
Nursing (AAS)	75.2	429.7%
Computer Information Systems (AAS)	52.4	299.4%
Protective Services (AAS)	36.2	206.9%
Business and Office (AAS)	31.0	177.1%
Electrical/Electronics Technology (AAS)	27.0	154.3%
Mechanical Technology (AAS)	12.6	72.0%
Automotive Technology (Cert.)	1.8	N/A
Administration of Justice (Cert.)	0.8	N/A

All Associate of Applied Science (AAS) degree programs must enroll an average of 17.5 FTE students each year to meet the SCHEV graduation criterion. As can be seen, using fall term data, all programs except Mechanical Technology not only meet the criterion but far exceed it. Within the Business and Management curriculum, however, strategies for increasing the number of FTES in Marketing should be developed.

Enrollment in both certificate programs appears quite low. In the case of Administration of Justice, this can be explained by the fact that a number of students who graduate with this certificate are actually enrolled in the Protective Services AAS program. To correct this misleading statistic, better efforts to enroll students in *both* programs should be adopted. In the case of Automotive Technology, strategies must be developed to increase FTES.

Enrollment in terms of the actual number of students enrolled in the college's occupational/technical programs is shown in Table 3.

Table 3: Headcount Enrollment (Fall 1990 - Fall 1995)

Program	5-Year Average (Fall 1990 Fall 1995)
Business and Management (AAS)	185.6
--Accounting	59.6
--General Management	109.0
--Marketing	17.0
Nursing (AAS)	138.0
Computer Information Systems (AAS)	110.2
Protective Services (AAS)	62.8
Business and Office (AAS)	61.0
Electrical/Electronics Technology (AAS)	56.8
Mechanical Technology (AAS)	25.0
Automotive Technology (Cert.)	2.8
Administration of Justice (Cert.)	2.0

The same enrollment patterns noted above with respect to FTES are evident.

Recommendation: Strategies should be developed by division chairs and program faculty for increasing the number of students and FTES in the following programs: Mechanical Technology (AAS), Business and Management--Marketing (AAS), and Automotive Technology (Certificate).

Recommendation: Strategies should be developed to ensure accurate enrollment in the Administration of Justice (Certificate) program.

3. **Retention.** Retention rates for the college's occupational/technical programs are shown in Table 4. The retention rate refers to the number of students enrolled in the fall term of one year who return, enroll in, and complete the fall term of the subsequent year.

Table 4: Retention Rates (1990-91 - 1993-94)

Program	*4-Year Average (1990-91 through 1993-94)*
Automotive Technology (Cert.)	66.7%
Nursing (AAS)	50.0%
Business and Office (AAS)	47.8%
Electrical/Electronics Technology (AAS)	47.2%
Mechanical Technology (AAS)	47.1%
Business and Management (AAS)	44.3%
--Accounting	43.9%
--General Management	45.1%
--Marketing	41.4%
Protective Services (AAS)	44.3%
Computer Information Systems (AAS)	43.4%
Administration of Justice (Cert.)	33.3%

As can be seen, retention rates range from 33.3% to 66.7%. The two certificate programs span this range with both the high and the low. However, enrollment in both programs is so low that caution should be exercised in making conclusions based upon these data. With respect to the AAS programs, the only one with a retention rate of 50% or higher is Nursing. Certainly, because no program, with the exception of Automotive Technology, exceeds 50%, retention strategies should be developed for all occupational/technical programs.

Recommendation: Strategies should be developed by division chairs and program faculty for increasing retention in *all* occupational/technical programs.

Employment

The employment status of PVCC occupational/technical graduates is shown in Table 5. Data were obtained from graduate follow-up surveys for the classes of 1989-90, 1990-91, 1991-92, 992-93, and 1993-94.

Table 5: Employment Status (Graduates, 1989-90 -1993-94)

Program	Full-Time (Related Field)	Part-Time (Related Field)	Full-Time (Unrelated Field)	Part-Time (Unrelated Field)	Unemployed (seeking employment)	Unemployed (NOT seeking employment)
Mechanical Technology (AAS)	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Electrical/Electronics Technology (AAS)	85.7%	0.0%	0.0%	14.3%	0.0%	0.0%
Nursing (AAS)	78.4%	0.0%	20.7%	0.0%	0.9%	0.0%
Business and Management (AAS)	62.1%	15.5%	8.6%	6.9%	1.7%	5.2%
--Accounting	44.4%	16.7%	22.2%	5.6%	5.6%	5.6%
--General Management	71.0%	12.9%	3.2%	6.5%	0.0%	6.5%
--Marketing	66.7%	22.2%	0.0%	11.1%	0.0%	0.0%
Business and Office (AAS)	60.0%	10.0%	10.0%	20.0%	0.0%	0.0%
Computer Information Systems (AAS)	50.0%	25.0%	6.3%	6.3%	12.5%	0.0%
Administration of Justice (Cert.)	33.3%	33.3%	8.3%	8.3%	0.0%	16.7%
Protective Services (AAS)	24.0%	32.0%	4.0%	16.0%	8.0%	16.0%
Automotive Technology (Cert.)	0.0%	50.0%	50.0%	0.0%	0.0%	0.0%

As can be seen, the percentage of graduates employed full-time in fields related to their study at PVCC ranged from 0% for Automotive Technology to 100% for Mechanical Technology. Please note, however, that for most of these programs, the number of respondents was so small that the results can be misleading.

The SCHEV criteria for employment status relate to the percentage of all graduates who (1) are employed in program-related work, (2) are pursuing further study, or (3) have identified the program as significantly contributing to their functioning as workers and citizens. If 75% or more of the graduates are in one of these three categories, 10 points are awarded; if between 50% and 75% are in one of the categories, 5 points are awarded; and if less than 50% are in one of these categories, no points are awarded. The status of the college's occupational/technical programs with regard to this criterion is shown in Table 6.

Table 6: Graduates Employed in Program-Related Work, Pursuing Further Study, or Identifying the Program as Significantly Contributing to Their Functioning as Workers and Citizens

Program	Employed in Program-Related Fields	Pursuing Further Education	Respondents Meeting Criterion (Columns B+C)	Total Respondents	Percentage of Respondents Meeting Criterion
Mechanical Technology (AAS)	6	0	6	6	100.0%
Electrical/Electronics Technology (AAS)	6	0	6	7	85.7%
Nursing (AAS)	87	0	87	111	78.4%
Business and Management (AAS)	41	3	44	58	75.9%
--Accounting	12	1	13	18	72.2%
--General Management	23	2	25	31	80.6%
--Marketing	6	0	6	9	66.7%
Business and Office (AAS)	7	0	7	10	70.0%
Administration of Justice (Cert.)	5	2	7	12	58.3%
Computer Information Systems (AAS)	9	0	9	16	56.3%
Automotive Technology (Cert.)	1	0	1	2	50.0%
Protective Services (AAS)	6	4	10	25	40.0%

As can be seen, four programs--Mechanical Technology, Electrical/Electronics Technology, Nursing, and Business and Management--would fully meet this SCHEV criterion and receive 10 points in a productivity review. Two other AAS programs--Business and Office and Computer Information Systems--as well as both certificate programs--would partially meet this criterion and receive five points. One AAS program, Protective Services, would not meet the criterion and would receive no points. All programs not fully meeting the criterion should develop strategies for ensuring that their graduates find meaningful, program-related employment.

The average salaries of 1993-94 graduate survey respondents in all occupational/technical programs are shown in Table 7. Also shown are the median entry-level salaries for program related jobs in either Virginia or the Charlottesville Metropolitan Statistic Area (MSA). In many cases, the entry-level salary figures are only one of several possibilities, depending upon which sector was selected (public or private), which region (state or local), and which specific job title. Additional wage data for all occupational/technical curricula are included under "Service Region Job Market Data" in the base data provided by the Office of Institutional Research and Planning

Table 7: A Comparison of Graduate Salary Data with State and Regional Wage Data

Program	*Mean Salary of Graduates*	*Median Entry Wage in Virginia or in Charlottesville MSA*	*Difference*
Computer Information Systems (AAS)	$ 32,667.00	$ 28,704.00	$ 3,963.00
Electrical/Electronics Technology (AAS)	$ 28,000.00	$ 21,178.00	$ 6,822.00
Nursing (AAS)	$ 25,915.00	$ 26,955.00	$ (1,040.00)
Administration of Justice (Cert.)	$ 17,403.00	$ 22,755.00	$ (5,352.00)
Protective Services (AAS)	$ 16,423.00	$ 22,755.00	$ (6,332.00)
Business and Management (AAS)	$ 15,819.00	--	--
--Accounting	$ 16,234.00	$ 23,449.00	$ (7,215.00)
--General Management	$ 26,153.00	$ 23,975.00	$ 2,178.00
--Marketing	$ 13,500.00	$ 23,400.00	$ (9,900.00)
Business and Office (AAS)	$ 15,000.00	$ 21,060.00	$ (6,060.00)
Automotive Technology (Cert.)	--	$ 19,657.00	--
Mechanical Technology (AAS)	--	$ 19,864.00	--

The highest salaries of PVCC graduates were in Computer Information Systems and the lowest in Business and Office. Graduate salaries were higher than average in Electrical/Electronics Technology, Computer Information Systems, and the General Management specialization of Business and Management, and lower in the other programs.

A great deal of caution should be exercised in comparing graduate respondent salaries to wage data. For one thing, a small number of respondents in many, if not most, occupational/technical programs report salary data. In this respect, averages are often dependent upon one or two salaries and so are not truly representative. For another thing, as noted above, wage data vary considerably by sector, region, and job title. Perhaps, as appropriate, additional salary data can be collected in 1996-97.

Recommendation: Strategies should be developed by division chairs and program faculty to ensure that graduates in the following programs find employment related to their study at the college: Business and Office (AAS), Computer Information Systems (AAS), Protective Services (AAS), Administration of Justice (Certificate), and Automotive Technology (Certificate).

Satisfaction with Academic Preparation

The evaluation of academic preparation for employment by graduate survey respondents (1989-90 through 1993-94) from occupational/technical programs is presented in Table 8. An evaluation by graduate respondents of their academic preparation in comparison to other employees within the same career fields is included under "Graduate Survey Data" with the base data provided by the Office of Institutional Research and Planning.

Table 8: Evaluation of Academic Preparation for Employment by Graduates (1989-90 - 1993-94)

Program	*Excellent*	*Good*	*Fair*	*Poor*
Automotive Technology (Cert.)	100.0%	0.0%	0.0%	0.0%
Administration of Justice (Cert.)	80.0%	20.0%	0.0%	0.0%
Nursing (AAS)	53.6%	41.8%	4.5%	0.0%
Business and Office (AAS)	50.0%	50.0%	0.0%	0.0%
Mechanical Technology (AAS)	50.0%	16.7%	33.3%	0.0%
Protective Services (AAS)	47.4%	47.4%	5.3%	0.0%
Computer Information Systems (AAS)	46.2%	30.8%	15.4%	7.7%
Business and Management (AAS)	30.8%	65.4%	1.9%	1.9%
--Accounting	46.2%	46.2%	0.0%	7.7%
--General Management	25.8%	71.0%	3.2%	0.0%
--Marketing	25.0%	75.0%	0.0%	0.0%
Electrical/Electronics Technology (AAS)	28.6%	57.1%	0.0%	14.3%

For the most part, graduates appear quite satisfied with the academic preparation they received at PVCC. The only programs in which 20% or more of the respondents indicated that their preparation was either fair or poor were Mechanical Technology and Computer Information Systems. In other programs, such as Automotive Technology, the number of respondents was too small to produce meaningful results.

The SCHEV productivity standard for graduate satisfaction is to combine satisfaction with employment and satisfaction with college transfer and then determine the percentage of "satisfied" graduates. If 75% or more of the graduates are satisfied, 10 points are awarded; if between 50% and 75% are satisfied, 5 points are awarded; and if less than 50% are satisfied, no points are awarded. Looking only at satisfaction with employment, and defining "satisfaction" as a rating of either excellent or good, the only program which would not receive 10 points would be Mechanical Technology.

Employers are asked to rate PVCC graduates they hire upon a number of factors. Their evaluation of the technical job skills of PVCC graduates of the classes of 1989-90,

1990-91, 1991-92, and 1992-93 is presented in Table 9. Their evaluation of other factors is presented in the section on employer survey data in the base data provided by the Office of Institutional Research and Planning.

Table 9: Employer Evaluation of Technical Job Skills of Graduates (1989-90 - 1992-93)

Program	*Excellent*	*Good*	*Fair*	*Poor*
Electrical/Electronics Technology (AAS)	66.7%	0.0%	33.3%	0.0%
Administration of Justice (Cert.)	50.0%	50.0%	0.0%	0.0%
Computer Information Systems (AAS)	50.0%	0.0%	50.0%	0.0%
Protective Services (AAS)	40.0%	60.0%	0.0%	0.0%
Business and Management (AAS)	36.9%	52.6%	10.5%	0.0%
--Accounting.	60.0%	20.0%	20.0%	0.0%
--General Management	30.0%	60.0%	10.0%	0.0%
--Marketing	25.0%	75.0%	0.0%	0.0%
Nursing (AAS)	25.6%	53.5%	20.9%	0.0%
Business and Office (AAS)	20.0%	60.0%	0.0%	20.0%
Mechanical Technology (AAS)	0.0%	100.0%	0.0%	0.0%
Automotive Technology (Cert.)	--	--	--	--

Using the SCHEV productivity criterion, the only programs which would not receive the full 10 points would be Computer Information Systems and Electrical/Electronics Technology. However, in all programs except Nursing, the number of employers providing data was so small that the results must be treated with extreme caution.

Recommendation: Strategies should be developed by division chairs and program faculty to ensure graduate satisfaction with the college's academic preparation for employment in the following programs: Mechanical Technology (AAS), Electrical/Electronics Technology (AAS), and Computer Information Systems (AAS).

College Transfer

While the college's occupational/technical programs are designed primarily for students whose goal is to enter into a chosen career field, a number of program graduates continue their study at four-year colleges and universities. The number of graduate survey respondents (1989-90 through 1993-94) transferring, as well as an evaluation by these respondents of their academic preparation at PVCC for transfer, is shown in Table 10. An evaluation by graduate respondents of their academic preparation in comparison to students starting as freshmen at the transfer institutions is included under "Graduate Survey Data" with the base data provided by the Office of Institutional Research and Planning.

Table 10: Evaluation of Academic Preparation for College Transfer by Graduates (1989-90 - 1993-94)

Program	Number Transferring	Excellent	Good	Fair	Poor
Business and Management (AAS)	13	23.1%	69.2%	7.7%	0.0%
--Accounting	5	20.0%	80.0%	0.0%	0.0%
--General Management	5	20.0%	80.0%	0.0%	0.0%
--Marketing	3	33.3%	33.3%	33.3%	0.0%
Protective Services (AAS)	10	40.0%	50.0%	10.0%	0.0%
Nursing (AAS)	8	62.5%	37.5%	0.0%	0.0%
Administration of Justice (Cert.)	6	83.3%	16.7%	0.0%	0.0%
Computer Information Systems (AAS)	3	33.3%	66.7%	0.0%	0.0%
Mechanical Technology (AAS)	3	33.3%	66.7%	0.0%	0.0%
Business and Office (AAS)	2	0.0%	100.0%	0.0%	0.0%
Automotive Technology (Cert.)	1	100.0%	0.0%	0.0%	0.0%
Electrical/Electronics Technology (AAS)	0	--	--	--	--

As should be evident, a large number of occupational/technical graduates *do* transfer to four-year colleges and universities. The programs with the largest number of transfers are Business and Management, Protective Services, Nursing, and Administration of Justice. In all programs, graduates are satisfied with their academic preparation for transfer. Using the SCHEV productivity criterion, every program would receive the full 10 points for graduate satisfaction.

Recommendation: Because a large number of occupational/technical graduates *do* transfer to four-year colleges and universities, strategies should be developed by division chairs and program faculty in all programs to ensure that students are aware of their transfer options.

Job Market Data

The growth rates between the years 1990 and 2005 of occupations associated with PVCC occupational/technical programs for both the Charlottesville MSA and the state of Virginia as a whole are shown in Table 11. In many cases, the figures are only one of several growth rate possibilities, depending upon which specific job titles and which sectors (public or private) were selected. Additional job market data on the number of average annual openings for all occupational/technical curricula are included under "Service Region Job Market Data" in the base data provided by the Office of Institutional Research and Planning.

Table 11: Growth Rate for Occupations Associated with PVCC Occupational/Technical Programs (1990-2005)

Program	*Growth Rate – Charlottesville MSA*	*Growth Rate – Virginia*
Nursing (AAS)	38%	35%
Computer Information Systems (AAS)	37%	54%
Electrical/Electronics Technology (AAS)	25%	20%
Protective Services (AAS)	23%	18%
Administration of Justice (Cert.)	23%	18%
Automotive Technology (Cert.)	22%	22%
Business and Management (AAS)	20%	21%
--Accounting	32%	30%
--General Management	17%	18%
--Marketing	24%	41%
Business and Office (AAS)	18%	18%
Mechanical Technology (AAS)	-3%	5%

The growth rate for both the Charlottesville MSA and the state of Virginia as a whole is 18%. All of the college's occupational/technical programs, with one exception, equal or exceed 18%. The exception is Mechanical Technology, which is projected to lose jobs in the Charlottesville MSA and only grow slightly statewide.

Again, caution should be exercised when reviewing these figures. In many cases, the data are too broad to truly account for local market conditions. For instance, the recent hiring freeze at the University of Virginia Medical Center has substantially decreased the local market for PVCC Nursing graduates. In other cases, the data do not account for program specializations or special features. For instance, in Mechanical Technology, the local market for CAD draftsmen is much higher than the market for traditional draftsmen.

Recommendation: Strategies should be developed by division chairs and program faculty to ensure that adequate local employment is available for graduates in the following programs: Mechanical Technology (AAS), Business and Office (AAS), and Business and Management--General Management (AAS).

Local Supply

Supply data for both the Charlottesville MSA and the state of Virginia as a whole are presented under "Service Region Job Market Data" in the base data provided by the Office of Institutional Research and Planning. Table 12 summarizes these data by showing the supply of workers in various fields in the Charlottesville MSA provided by PVCC, secondary vocational education, four-year colleges and universities, and other institutions.

Table 12: Supply of Workers in PVCC Occupational/Technical Program-Related Fields Within the Charlottesville MSA

Program	PVCC	Secondary Vocational Education	Bachelor's Degree and Higher	Other
Business and Office (AAS)	100.0%	0.0%	0.0%	0.0%
Nursing (AAS)	100.0%	0.0%	0.0%	0.0%
Protective Services (AAS)	100.0%	0.0%	0.0%	0.0%
Administration of Justice (Cert.)	100.0%	0.0%	0.0%	0.0%
Business and Management (AAS)	38.2%	61.8%	0.0%	0.0%
--Accounting	100.0%	0.0%	0.0%	0.0%
--General Management	25.0%	75.0%	0.0%	0.0%
--Marketing	--	--	--	--
Computer Information Systems (AAS)	25.0%	75.0%	0.0%	0.0%
Mechanical Technology (AAS)	14.3%	85.7%	0.0%	0.0%
Electrical/Electronics Technology (AAS)	14.3%	50.0%	0.0%	35.7%
Automotive Technology (Cert.)	6.7%	93.3%	0.0%	0.0%

Four of the college's occupational/technical programs provide all of the workers for the Charlottesville MSA. These are Business and Office, Nursing, Protective Services, and Administration of Justice. The remaining programs provide less than half of all the workers within the region.

Recommendation: In light of the fact that more than one-half of all regional workers are trained elsewhere locally, division chairs and program faculty should determine what training role the college plays in the local job market in the following programs: Computer Information Systems (AAS), Electrical/Electronics Technology (AAS), Mechanical Technology (AAS), Business and Management--General Management (AAS), and Automotive Technology (Certificate).

Cost

The ratio of instructional program costs to student credit hours is used by SCHEV as a criterion for productivity review. Those programs with a ratio of 50% or less than the institutional ratio are awarded 30 points; those with a ratio between 50% and 90% are awarded 20 points; those with a ratio between 20% and 110% are awarded 10 points; and those with a ratio greater than 110% are not awarded any points. These data are shown in Table 13.

Table 13: Ratio of Total Direct Program Costs to Student Credit Hours for PVCC Occupational/Technical Programs

Program	Total 1994-95 Direct Costs	Ratio (Cost to Student Credit Hours)	Pct. of Program Ratio to College Ratio
Protective Services (AAS)	$1,754.15	$2.29	1.3%
Computer Information Systems (AAS)	$11,937.78	$2.56	1.5%
Business and Management (AAS)	$178,165.08	$31.48	18.3%
--Accounting	--	--	--
--General Management	--	--	--
--Marketing	--	--	--
Mechanical Technology (AAS)	$33,082.00	$73.52	42.7%
Business and Office (AAS)	$76,504.00	$74.49	43.3%
Electrical/Electronics Technology (AAS)	$80,015.00	$123.10	71.5%
Nursing (AAS)	$331,726.37	$148.09	86.1%
Administration of Justice (Cert.)	--	--	--
Automotive Technology (Cert.)	--	--	--

As can be seen, only two programs, Electrical/Electronics Technology and Nursing, would not be awarded the full 30 points during a SCHEV productivity review. However, the methodology for calculating cost was developed specifically to address a SCHEV productivity review, and due to time constraints, is not as accurate as would be desired. In fact, every occupational/technical program falls below the college average ratio of $172.09. One follow-up task for 1996-97 might be to develop a more accurate--but still easy to calculate--methodology for determining actual programs costs.

Recommendation: An accurate and dependable methodology for calculating instructional program costs should be developed.

Recommendations

Ten specific recommendations are listed in earlier sections of this report. These recommendations are:

1. Strategies should be developed by division chairs and program faculty for increasing the number of graduates in the following programs: Business and Office (AAS), Electrical/Electronics Technology (AAS), Mechanical Technology (AAS), Protective Services (AAS), Computer Information Systems (AAS), Business and Management--Accounting (AAS), and Automotive Technology (Certificate).

2. Strategies should be developed by division chairs and program faculty for increasing the number of students and FTES in the following programs: Mechanical Technology (AAS), Business and Management--Marketing (AAS), and Automotive Technology (Certificate).

3. Strategies should be developed to ensure accurate enrollment in the Administration of Justice (Certificate) program.

4. Strategies should be developed by division chairs and program faculty for increasing retention in *all* occupational/technical programs.

5. Strategies should be developed by division chairs and program faculty to ensure that graduates in the following programs find employment related to their study at the college: Business and Office (AAS), Computer Information Systems (AAS), Protective Services (AAS), Administration of Justice (Certificate), and Automotive Technology (Certificate).

6. Strategies should be developed by division chairs and program faculty to ensure graduate satisfaction with the college's academic preparation for employment in the following programs: Mechanical Technology (AAS), Electrical/Electronics Technology (AAS), and Computer Information Systems (AAS).

7. Because a large number of occupational/technical graduates *do* transfer to four-year colleges and universities, strategies should be developed by division chairs and program faculty in all programs to ensure that students are aware of their transfer options.

8. Strategies should be developed by division chairs and program faculty to ensure that adequate local employment is available for graduates in the following programs: Mechanical Technology (AAS), Business and Office (AAS), and Business and Management--General Management (AAS).

9. In light of the fact that more than one-half of all regional workers are trained elsewhere locally, division chairs and program faculty should determine what training role the college plays in the local job market in the following programs: Computer Information Systems (AAS), Electrical/Electronics Technology (AAS), Mechanical Technology (AAS), Business and Management--General Management (AAS), and Automotive Technology (Certificate).

10. An accurate and dependable methodology for calculating instructional program costs should be developed.

In addition to these specific recommendations, the following more general recommendations are offered:

1. Using the data and information contained in this report as a starting point, as well as any additional data division chairs or program faculty feel are needed, an action plan for each occupational/technical program should be developed in 1996-97. The new procedures for academic program review, adopted by the college's Curriculum and Instruction Committee, should be followed in developing these action plans. Each action plan should address program strengths, indicating how these will be maintained, as well as program weaknesses, indicating how these will be corrected. Any specific recommendations in the *Report on Occupational/Technical Programs* which apply to the

program should be addressed as well. Completed action plans should be submitted for approval to the Dean of Instruction and Student Services by division chairs.

2. A process for determining when to place programs on probation and when to eliminate them needs to be developed. The process should be comprehensive and equitable, employing an objective set of standards. The SCHEV criteria for graduation, enrollment, employment, and cost should play an important role here, but should not be the only criteria considered. Local employment trends, retention rates, special populations served by a program are just a few of many other factors which might go into the process. The action plans developed for each of the college's occupational/technical programs should be evaluated against these standards so that by the end of the 1996-97 academic year, any programs targeted for probation or elimination are clearly identified.

3. Any further examination or restructuring of the college's occupational/ technical programs should take place within the context of *Agenda for Change: The Restructuring Addendum to the Strategic Plan*. This document examines the college's mission and defines its "mission core." The "mission core" consists of (1) preparation for college transfer and (2) workforce development. Clearly, occupational/technical programs at PVCC support workforce development, and any assessment of these programs must be undertaken with this in mind.

What these recommendations provide is a sound basis for evaluating the college's occupational/technical programs. The evaluation is designed not only to correct program weaknesses but to ensure that strengths can be maintained. In this sense, following these recommendations can only lead to program improvement, which is truly what evaluation is all about.

BUSINESS AND MANAGEMENT (AAS)
Accounting Major

Note: The review committee considered the marketing , accounting, and general management majors separately.

1. Summarize enrollment, retention, and graduation trends in 1-2 sentences.
This major meets SCHEV's minimum requirement for average number of graduates (seven students); the average enrollment is almost ten times that of the number of graduates. There is a 44% average annual retention rate for students in the specialization.

2. Do graduates of this program find employment in their field?
44% (n=18) of graduates in accounting are employed full time in their field.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
The majority of graduates cite their academic preparation as excellent or good; they believe that they are better prepared or as well prepared as other employees within the same field. Data from employer surveys are based on a very small number of respondents and inferences are difficult to make. Additional data need to be collected in order to answer this question.

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curricula support both transfer and on-transfer student goals?
The number of graduates seeking college transfer during the study period is small (n=5); however, four graduates evaluated their preparation for college as good and one as excellent. The present curriculum appears to be primarily designed for students whose goals are to immediately enter the work force.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
Based on the job market data for the service region, considerable growth in accounting jobs is projected for the area. This projection suggests that our service region can benefit from additional graduates in accounting.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
No. PVCC provides six workers for the 38 annual service region openings. However, 75% of accountants and auditors in Virginia have a bachelor's or higher degree. This suggests that perhaps PVCC should implement strategies to increase the number of transfer students in accounting.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?
Please see Table A; however, note that cost figures presented in Table A may not accurately reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: Enrollment has remained steady over the past five years. The majority of graduates in accounting find positions in their field and are satisfied with their academic preparation for employment.

Weaknesses: The average number of graduates is low and has not increased over the past five years. Only a small number of graduates seek transfer to four year institutions.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. Data from students who are non-completers: are they upgrading skills? How many of these students acquire jobs in the field without an AAS degree? why don't they return to PVCC? why don't more students seek college transfer?

b. Survey of local employers: do employers want graduates or employees with only very specific skills? why are our graduates' salaries so much lower than the average salary for accountants in Charlottesville?

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data described above.

2. Consider whether major is best focused on meeting training needs of local employers or whether emphasis should be shifted to preparing and retaining students for transfer.

BUSINESS AND MANAGEMENT (AAS)
General Management

Note: the review committee considered the marketing, accounting, and general management majors separately.

1. Summarize enrollment, retention, and graduation trends in 1-2 sentences.
Although this major exceeds SCHEV's minimum requirement for average number of graduates (n= 9.4), the average enrollment is about ten times the number of graduates. The average retention rate for students in this major is 45.2%.

2. Do graduates of this program find employment in their field?
Data collected from the study period show that 71% (n=22) of general management graduates are employed full time in their field.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
The majority of graduates cite their academic preparation as good and believe that they are about as well prepared as other employees within the same career.

Employer survey data rate graduates as excellent or good in all categories with the exception of math skills, where 30% of employers rated graduates as average and 10% rated graduates as poor.

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?
The number of graduates seeking college transfer during the study period is small (n=5); however, four graduates evaluated their preparation for college transfer as good and one as excellent. The present curriculum appears to be primarily designed for students whose goals are to immediately enter the work force.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
According to the **Guide to Occupations in Virginia**, the annual openings for general managers in the service region will grow 17%. The **Guide** projects a 25% growth rate for finance managers. This suggests that additional graduates in general management are needed.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
Probably. Of the 109 annual openings in the service region, secondary level vocational education supplies 21 workers and PVCC provides only seven workers. The educational preparation of all job categories in the management field is not known by the review committee; however, personnel managers and finance managers hold baccalaureate or higher degrees.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?
Please see Table A; however, note that cost figures presented in Table A may not accurately reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: Enrollment has remained steady until 1995, which showed a 20% decrease in the number of students from the previous year. 71% of general management graduates are employed full time in their filed and are satisfied with their academic preparation for employment.

Weaknesses: The average number of graduates is low and has not increased over the past five years. Only a small number of graduates seek transfer to four year institutions. Employers rate some graduates' math skills as average or poor.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. Data from students who are non-completers: are they upgrading skills? how many of these students acquire jobs in the field without an AAS degree? why don't they return to PVCC to complete this degree? why don;t more students seek college transfer?

b. Survey local employers: do employers want graduates or employees with upgraded skills?

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data described above.

BUSINESS AND MANAGEMENT (AAS)
Marketing Major

Note: the review work group considered the marketing, accounting, and general management majors separately.

1. Summarize enrollment, retention, and graduation trends in 1-2 sentences.
This major averages two graduates annually and so does not meet the SCHEV requirement of seven graduates yearly. Until 1995, the program's average enrollment was between 12-20 students. Enrollment in fall of 1995 showed a headcount of nine students; it is not clear whether this is the beginning of a downward trend or whether this was just an unusual semester. Although the number of students in the marketing major are fewer than that found in the accounting and general management majors, the student retention rate in all three areas is similar at approximately 40%.

2. Do graduates of this program find employment in their field?
Yes, 66.7% (n=6) of graduates during the study period are employed full time in a related field.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
The graduates describe their academic preparation for employment as "good" or "excellent" and believe that they are as well prepared or better prepared for employment as other employees within the same career field.

Employer survey data are based on four graduates from 1989-90 and are not sufficient to analyze. Additional data need to be collected in order to answer this question.

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?
The number of graduates seeking college transfer during the study period is small (n=3) and no conclusions can be drawn. The present curriculum appears to be primarily designed for students whose goals are to immediately enter the work force.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
The **Guide to Occupations in Virginia** indicates that there is a projected need for 25% more sales workers and 24% more advertising and public relations workers in the service region. This suggests that local employers can benefit from additional graduates from the marketing curriculum.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
Yes. Of the 68 annual openings in the service region, secondary level vocational education supplies 66 workers and PVCC only provides two employees.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?
Please see Table A; however, note that cost figures presented in Table A may not accurately reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: A majority of graduates (66.7%) find full time jobs in marketing.
Weaknesses: Lacks students and graduates. Another strong local educational competitor supplies the majority of students which fill annual job openings.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. Survey of local employers: do they hire PVCC students/graduates? do they give preference to AAS graduates over people who take 1-2 courses? do they see a need for the program to be re-focused on business and industry training? in their opinion, is the curriculum up-to-date?

b. Data from students who take just 1-2 courses.

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data described above.

2. Consider whether program is best focused on meeting training needs of local employers via a continuing education/business and industry approach or whether the degree program is still sound.

3. If the focus is to remain degree-focused, then develop a formal systematic plan for recruiting new students.

4. If the focus is to change to continuing education/business and industry training, then consider changing the program format to that of a certificate or career studies certificate program.

BUSINESS AND OFFICE (AAS)

1. Summarize enrollment, retention, and graduation trends in 1-2 sentences.
While headcount in this program has remained relatively stable during the study period, there has been a 9% decline in FTES. The average number of graduates is 5; slightly below the SCHEV minimum requirement. About half of students are retained annually.

2. Do graduates of this program find employment in their field?
60% of graduates during the study period are employed full time in their field.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
Data from graduate and employer surveys were collected from a very small number of respondents. 100% of graduates believed that their academic preparation for employment was either good or excellent. 79% reported that they were as well or better prepared than other employees. Employers rated at least 60% of PVCC graduates as either excellent or good in all skill categories, with technical skills, cooperation, quality of work, research skills, and logic skills cited as strengths. The writing skills of graduates appear to be the weakest area, with only 60% rated as excellent or good.

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?
Two students reported transferring during the study period; these student rated their preparation for transfer as good. The curriculum is appropriately designed to prepare students to directly enter the work force.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
The **Guide to Occupations in Virginia** states that there are 39 annual job openings in the service region for clerical managers, far exceeding the number of graduates produced. A 18% growth rate is projected. There are no other local programs producing clerical workers.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
No.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?
Please see Table A; however, note that cost figures presented in Table A may not accurately reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: Clerical workers are in great demand in the local job market.

Weaknesses: The program needs to increase its number of graduates and the FTES produced. The average salary for clerical workers is rather low and may discourage potential students from entering the program.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. Given the fact that there are so many local jobs, why are there not more students in the program?

b. Data from non-completers: are they upgrading skills? how many of these students acquire jobs in the field without an AAS degree? why don't they return to PVCC to complete the degree?

c. Survey of local employers: do employers want graduates or just employees with specific skills? do they give hiring preference to program graduates?

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data described above.

2. Consider whether program is best focused on degree completion or whether emphasis should be shifted to business and industry training approach.

COMPUTER INFORMATION SYSTEMS (AAS)

1. Summarize enrollment, retention, and graduation trends in 1-2 sentences.
The program averages nine graduates yearly, slightly above the SCHEV minimum requirement. The program is quite healthy in terms of headcount and FTES generated. The number of graduates has increased within the past two years; also, the retention rate of 50% is significantly better than five years ago.

2. Do graduates of this program find employment in their field?
50% of the graduates during the study period found full time employment in their field. However, data from graduate and employer surveys should be interpreted with caution because of the small number of respondents during the study period.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
Eighteen graduates (72%) report satisfaction with PVCC's academic preparation, support services, and program availability. All reported that their preparation was as good or better than that of other employees in their field. However, seven graduates (28%) were not satisfied with their preparation; it is not clear why. More data should be gathered to determine reasons for dissatisfaction.

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?
The curriculum is designed to support students who intend to directly enter the work force. A small number of students (3) during the study period reported transfer to a senior school; all rated their preparation for transfer as either excellent or good. A significant number of students (21%) reported pursuing some kind of further education. It is not clear what type of education this represents if it is not based in a senior school. More data need to be collected about the future educational plans of students in the program.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
The service region job market data indicate over 30 annual openings in the local area and greater than 300 openings in Virginia. However, it is not clear whether an associate degree is adequate preparation for these job openings. More detailed job market data about the level of educational preparation needed for various job openings will be very helpful.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
This question cannot be answered without knowing what level of educational preparation is required for the positions of programmer, operator, and data entry. If it is assumed that computer operators and data entry personnel need only an associate degree, then there are 15 average annual openings in the service region with a 15% projected growth rate. Twenty-one

workers are supplied annually by secondary level vocational education while only seven are provided by PVCC, suggesting that there may be a surplus of workers who lack baccalaureate or higher degrees.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?
Please see Table A; however, note that cost figures presented in Table A may not accurately reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: high headcount and number of FTES, both of which are increasing..

Weaknesses: a strong local educational competitor who supplies the majority of the local work force for the lower level computer job categories.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. determine why 28% of graduates report dissatisfaction with their academic preparation

b. increase the number of respondents to the employer and graduate surveys

c. identify the level of academic preparation needed for computer job categories in the local job market

d. consider exploring transfer student satisfaction with CIS courses for those students who transfer to disciplines other than computer science

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data described above.

ELECTRICAL/ELECTRONICS TECHNOLOGY (AAS)

1. Summarize enrollment, retention, and graduation trends in 1-2 sentences.
This program shows an increase in headcount (to 62 students in the fall of 1995) and FTES (to 29, fall 1995) over the past two years and a large increase in the number of graduates. The fluctuating trend in number of graduates (one year up, the next year down) makes it difficult to project future graduating rates. Only about half of those in the program return each year.

2. Do graduates of this program find employment in their field?
85.7% of graduates during the study period found jobs in their field.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
85% of graduates during the study period cite their academic preparation for employment as good or excellent. Employers rated 100% of graduates as either as well or better prepared than other employees. However, data from both graduates and employers were collected from a very small number of respondents. Additional data should be collected to better answer this question.

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?
There is no data to indicate that graduates transfer to four year school, although anecdotal evidence suggests that at least a few students do.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
There is a 15% projected growth rate in job openings in the service region for engineering technician and there is a 25% projected growth rate for electricians. The average number of annual openings in these two fields far exceeds the number of PVCC graduates.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
In Virginia, only a third of engineering technicians receive an associate degree from a community college and only 9% receive a certificate. Almost 50% or electricians and 33% of engineering technicians are educated by institutions other than the community college and secondary vocational schools. More data need to be collected about the educational preparation of these workers.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?
Please see Table A; however, note that cost figures presented in Table A may not accurately reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: There is a large job market for electronics students/graduates. The various categories of engineering technicians are able to earn a relatively high annual salary.

Weaknesses: The program needs to increase its number of graduates.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. Data from students who are non-completers: are they upgrading skills? how many of these students acquire jobs in the field without an AAS degree? why don't they return to PVCC to complete this degree?

b. Data from local employers: do they give hiring preference to program completers? why or why not? Are the ratings cited above regarding academic preparation of graduates accurate when additional employers are surveyed?

c. Are the data about transfer rates accurate?

d. Why does the number of graduates fluctuate so much from year to year?

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data above.

2. Consider whether program's focus should continue to be on degree completion or whether a business and industry training focus is better suited to the needs of local employers.

MECHANICAL TECHNOLOGY (AAS)

1. Summarize enrollment, retention, and graduation trends in 1-2 sentences.
Enrollment and FTES have fluctuated quite a bit over the study period but currently appear to be in an upward trend, although this increase has not yet been accompanied by an increase in the number of graduates. The program does not meet the SCHEV minimum requirement for either FTES or graduates. An average of 47% of students are retained annually.

2. Do graduates of this program find employment in their field?
Data from employer and graduate surveys are collected from a very small number of respondents and must be interpreted with caution. However, 100% of the graduates are employed full time in the field.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
The majority of graduates (67%; n=4) state that their preparation is either excellent or good. Two students report concern with their preparation. More data from a larger number of program completers are needed in order to draw conclusions. Only two employers of graduates responded during the study period; more data are needed about preparation for employment before accurate analysis can be done.

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?
Three students during the study period reported that they transferred to senior schools; all rated their preparation for transfer as either excellent or good. The curriculum appears to be appropriately designed to meet the needs of students desiring to directly enter the work force following program completion.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
While the growth rate for drafters in Virginia is projected to grow by 5%, there is an average of only four annual openings for this job category in the service region and the local growth rate is projected to fall by 3%. If PVCC increases the number of graduates, these students may need to seek employment outside of the service region.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
Yes. Secondary vocational education prepares six workers annually, slightly in excess of the projected four annual openings for the service region.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?
Please see Table A; however, note that cost figures presented in Table A may not accurately

reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: Presently all graduates are finding full time employment in their field and the majority of students are satisfied with their preparation.

Weaknesses: Few graduates and FTES are being produced. There are few projected annual job openings in the college's service region.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. Data from non-completers: are they upgrading skills? how many of these students acquire jobs in the field without an AAS degree?

b. Data from employers: do local employers support the accuracy of the projected number of annual job openings? do employers give hiring preference to program completers? is the curriculum up to date and responsive to the current employer needs?

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data described above.

2. Explore ways to attract, retain, and graduate additional students; consider the implications of few local job openings on this effort.

1. Summarize enrollment, retention, and graduation trends in 1-2 sentences.
Over the last five years, the program has consistently generated a large number of graduates, about 46 annually. The headcount and FTES are also very high, averaging 138 and 75 respectively over the study period. The program has a 75% graduation rate.

2. Do graduates of this program find employment in their field?
Data from graduates during the study period show that 78% (n=87) are employed full time in their field and 20% are employed part-time in their field. Less than 1% of all those unemployed are actively seeking employment.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
95% (n=105) of graduates during the study period rated their PVCC academic preparation as good or excellent. Over 97% rated their preparation as good or better than that of other employees in their work place. Employers rated 70% or more of graduates as either excellent or good in every job skill category except that of research skills; no graduates were rated as poor in any category.

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?
Although the curriculum is designed to support students who immediately enter the work force after graduation, eight students who transferred during the study period rated their academic preparation as good to excellent. 50% of these transfer students believed that the preparation was superior to that of students who began as freshmen in the transfer institution.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
According to the **Guide to Occupations in Virginia**, there are 77 annual job openings in the local area, a number far in excess of PVCC's annual number of graduates. However, the recent hiring freeze at the University of Virginia will result in a substantial decrease in the number of local jobs.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
Yes. The University of Virginia annually graduates about 80 students from its baccalaureate nursing program; these students do not always stay in the local area to work but are nevertheless potential employees.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?

Please see Table A; however, note that the cost figures presented in Table A may not accurately reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: high retention rate, number of graduates, successful employment in field, high graduate and employer satisfaction.

Weaknesses: changing job market may result in many fewer jobs for graduates; this may in turn affect enrollment.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. Better analysis of future job market

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data described above.

PROTECTIVE SERVICES (AAS)
Major in Police Science

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1. Summarize enrollment, retention, and graduation trends in 1-2 sentences.
The average number of FTES is 35; the number of FTES has been rising over the past five years. Since the annual average of graduates is 8.6, this program more than meets SCHEV productivity standards. There is a 44% retention rate.

2. Do graduates of this program find employment in their field?
28% (n=7) of graduates during the study period reported working full time in their field.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
95% (n=18) of graduates during the study period rated their academic preparation as good to excellent and 100% of graduates stated that their preparation was as good or better than other employees in their field. Employers rated at least 80% of graduates as excellent or good in all job skill categories except attitude toward work (60% with rating of excellent or good).

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?
About 20% of graduates during the study period report that they have transferred to senior schools. 80% of these transfer students believe that they are at least as well or better prepared than other students at the four year school. The curriculum appears to support both transfer and non-transfer students.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
There are 45 annual job openings in the service region for three different categories of protective services workers. A 30-60% growth rate is projected for the three occupational groups.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
There are no other local educational providers for this program in the area.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?
Please see Table A; however, note that the cost figures presented in Table A may not accurately reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: Rising headcount and FTES. Graduates report good preparation for employment and employers are likewise quite satisfied.

Weaknesses: Low employment rate of graduates. This is puzzling since there appear to be many local job openings.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. Further analysis of job market data to determine if the cited number of openings is accurate.

b. Survey of employers to determine why PVCC graduates are not hired.

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data described above.

2. Survey currently enrolled students (non-majors) to determine if a potential student market is people interested in ADJ courses for personal satisfaction.

ADMINISTRATION OF JUSTICE (C)

1. Summarize enrollment, retention, and graduation trends in 1-2 sentences.
The headcount and number of FTES is low; however, the program graduates an average of seven students annually because degree-seeking graduates also may choose to obtain the certificate.

2. Do graduates of this program find employment in their field?
42% (n=5) of certificate graduates are employed full time in the protective services area.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
Of 10 respondents during the study period, all said that they were satisfied with their academic preparation and considered themselves as well or better prepared as other workers. Only two employers responded during the study period; both were satisfied with the preparation of PVCC certificate graduates.

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?
Although the certificate program is not designed to support transfer to four year institutions, there were 10 transfer students during the study period. It is not clear how many of these students also eventually earned the associate degree in protective services as well. The transfer students were satisfied with their academic preparation and believed that they were as well or better prepared than other students in the senior school. There appear to be more certificate graduates transferring than directly entering the work force.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
Local and state job market data indicate a continued need for this program. It is not clear why only 40% of certificate holders are employed in the field. More data need to be collected to answer this question.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
No. There are no other local providers of this type of worker.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?
Please see Table A; however, note that the cost figures presented in Table A may not accurately reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: Number of graduates, graduates' satisfaction with quality of academic preparation, both for transfer and for the work force.

Weaknesses: More than half of certificate completers are not employed full time in the field.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. Clarify job market data. How many annual job openings exist for graduates with the certificate level of preparation?

b. Increase the number of respondents to the employer survey and collect more data: why aren't more graduates employed in the field? do employers give preference to degree completers? do local employers have training needs that are not currently met by the certificate program?

c. Collect more data from transfer students: is the number of transfer students likely to increase? to which schools and disciplines are students transferring?

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data described above.

AUTOMOTIVE TECHNOLOGY (C)

1. Summary of enrollment, retention, and graduation trends.
Both enrollment in program courses and number of graduates is very low. Very few students are taking courses in the program and these students are only taking one or two courses rather than completing the entire certificate program.

2. Do graduates of this program find employment in their field?
There have only been two respondents to the Graduate Survey in the past four years. Additional data need to be collected in order to answer this question.

3. Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?
The following statement is based only on two respondents among the graduates and one employer respondent: both graduates and the employer were well satisfied. Additional data need to be collected in order to answer this question.

4. Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?
Very few students transfer to senior schools; the present curriculum appears to be appropriately designed for students whose goals are to immediately enter the work force.

5. Do the job market data from PVCC's service region indicate that a need continues to exist for this program?
Market data for both the state as a whole and the PVCC service region indicate that there continues to be a need for this program. It is puzzling why there is not more enrollment in the program's courses.

6. If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?
Yes. Of 16 annual service region openings, secondary level vocational education supplies 14 workers and PVCC only provides one. Perhaps the college should explore a joint program with CATEC.

7. Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?
Please see Table A; however, note that cost figures presented in Table A may not accurately reflect the true cost of college programs.

Summary and Recommendations:

8. Based on the above data, what are this program's strengths and weaknesses?

Strengths: Job market data indicate a continued need for this type of worker.

Weaknesses: lacks students and graduates. Another strong local educational competitor who supplies the majority of students to fill annual job openings.

9. What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?

a. Survey of local employers--do they hire PVCC students/graduates? do they give preference to certificate completers over people who take just 1 or 2 courses? do they see a need for the entire certificate or should program be re-focused on business and industry training? in their opinion, is the curriculum and the program's equipment up-to-date?

b. Data from students who take just 1-2 courses--why?

c. Is there an opportunity for partnership with CATEC? Could facilities/state-of-the-art equipment be shared by local employers?

The Assessment committee makes the following suggestions for consideration to the program faculty and their division chair as they develop an action plan to maintain program strengths and address program weaknesses:

1. Collect data described above.

2. Consider whether program is best focused on meeting training needs of local employers via a continuing education/business and industry training approach or whether certificate program idea is still sound.

3. If focus will continue to be certificate program format, develop a formal systematic plan for recruiting new students.

4. Explore idea of partnerships--CATEC, local employer(s).

MEMORANDUM

TO: Ron Head

FROM: Kurt Gottschalk

DATE: May 23, 1996

SUBJECT: O/T Program Snapshots

Attached are O/T program snapshots for curricula in my division.

attachment

OCCUPATIONAL-TECHNICAL "SNAPSHOT" PROGRAM REVIEW
1995-96

Business and Management (A.A.S.)

1. **Summarize enrollment, retention, and graduation trends in 1-2 sentences.**

   With a five-year average of 20 graduates per year and 96 FTE majors per year, the Business and Management Degree is strong from enrollment and graduate perspectives. The program's retention rate is average for the business technologies.

2. **Do graduates of this program find employment in their field?**

   Most graduates find employment in their field.

3. **Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?**

   Most graduates are satisfied with their academic preparation. Most employers are satisfied with the performance of the graduates.

4. **Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?**

   No.

5. **Do the job market data from PVCC's service region indicate that a need continues to exist for this program?**

   Yes.

6. **If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?**

   Unknown - more data needed.

7. **Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?**

   Lower.

8. **According to the division chair, this program's average annual equipment/supplies cost is in which category: high, medium, low.**

Low.

Summary and Recommendations:

9. **Based on the above data, what are this program's strengths and weaknesses?**

Strengths - low cost
- enrollment and graduates
- documented need for program

Weaknesses - none.

10. **What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?**

Increase sample size of follow-up surveys.
Data to answer #6.

OCCUPATIONAL-TECHNICAL "SNAPSHOT" PROGRAM REVIEW
1995-96

Business and Office Degree (A.A.S.)*

1. **Summarize enrollment, retention, and graduation trends in 1-2 sentences.**

   The Business and Office Degree program has an ample number of FTE majors, an average of 31 per year, but only a graduate average per year of 4. The program's retention rate is average for the business technologies.

2. **Do graduates of this program find employment in their field?**

   Most graduates find employment in their field.

3. **Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?**

   Most graduates are satisfied with their academic preparation. Most employers are satisfied with the performance of the graduates.

4. **Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?**

   No.

5. **Do the job market data from PVCC's service region indicate that a need continues to exist for this program?**

   Yes.

6. **If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?**

   Unknown - more data needed.

7. **Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?**

   Lower.

8. **According to the division chair, this program's average annual equipment/supplies cost is in which category: high, medium, low.**

Medium.

Summary and Recommendations:

9. **Based on the above data, what are this program's strengths and weaknesses?**

Strengths - low cost
- documented need for program

Weaknesses - low number of graduates

10. **What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?**

Increase sample size of follow-up surveys.
Data to answer #6.

* The certificate program in Business and Office is the first year of the two-year A.A.S. degree program in Business and Office and thus utilizes no additional resources beyond those utilized by the degree program.

OCCUPATIONAL-TECHNICAL "SNAPSHOT" PROGRAM REVIEW
1995-96

Computer Information Systems (A.A.S.)

1. **Summarize enrollment, retention, and graduation trends in 1-2 sentences.**

   With a five-year average of 8 graduates per year and 58 FTE majors per year, the Computer Information Systems Degree is adequate from enrollment and graduate perspectives. The program's retention rate is average for the business technologies.

2. **Do graduates of this program find employment in their field?**

   Approximately half of program graduates find employment in their field.

3. **Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?**

   Most graduates are satisfied with their academic preparation. Most employers are satisfied with the performance of the graduates.

4. **Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?**

   No.

5. **Do the job market data from PVCC's service region indicate that a need continues to exist for this program?**

   Yes.

6. **If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?**

   Unknown - more data needed.

7. **Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?**

   Lower.

8. **According to the division chair, this program's average annual equipment/supplies cost is in which category: high, medium, low.**

Medium.

Summary and Recommendations:

9. **Based on the above data, what are this program's strengths and weaknesses?**

Strengths - low cost
- documented need for program

Weaknesses - only half of graduates are employed in field

10. **What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?**

Increase sample size of follow-up surveys. Data to answer #6.

OCCUPATIONAL-TECHNICAL "SNAPSHOT" PROGRAM REVIEW
1995-96

Police Science (A.A.S.)*

1. **Summarize enrollment, retention, and graduation trends in 1-2 sentences.**

   With a five-year average of 10 graduates per year and 36 FTE majors per year, the Police Science degree is healthy from enrollment and graduate perspectives. The program's retention rate is average for the business technologies.

2. **Do graduates of this program find employment in their field?**

   Most graduates find employment, however, not in their field, according to available data.

3. **Are the graduates of this program satisfied with their academic preparation? Are the employers of these graduates satisfied?**

   Most graduates are satisfied with their academic preparation. Most employers are satisfied with the performance of the graduates.

4. **Does it appear that a significant number of students in this program transfer to four year schools? If so, does the curriculum support both transfer and non-transfer student goals?**

   Yes, the data indicate that 40% of the graduates surveyed had transferred to a four-year school. The curriculum is intended to support transfer student goals.

5. **Do the job market data from PVCC's service region indicate that a need continues to exist for this program?**

   Yes.

6. **If PVCC did not have this program, would there be a sufficiently great number of graduates from other local programs to satisfy the local job market demand?**

   Unknown - more data needed.

7. **Is the ratio of program costs to student credit hour of this program higher, lower, or about the same as that for PVCC as a whole?**

   Lower.

8. **According to the division chair, this program's average annual equipment/supplies cost is in which category: high, medium, low.**

Low.

Summary and Recommendations:

9. **Based on the above data, what are this program's strengths and weaknesses?**

Strengths - low cost
- enrollment and graduates
- documented need for program

Weaknesses - data indicate that the majority of graduates is not employed in the field

10. **What additional data needs to be collected in 1996-97 in order to complete the analysis of this program?**

Increase sample size of follow-up surveys. Data to answer #6.

* The Certificate Program in Administration of Justice is a subset of the two-year A.A.S. Degree Program in Police Science and thus utilizes no additional resources beyond those utilized by the degree program.

PIEDMONT VIRGINIA COMMUNITY COLLEGE

MEMORANDUM

Date: May 28, 1996

From: Mary Wayland MW
Acting Division Chair, Science and Technology

To: Dr. Ron Head
Acting Dean of Instruction and Student Services

Subject: Division Chair Input, Occupational-Technical Program Review

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Ron, because I was so involved in the assessment committee's review of the occupational-technical programs, I have not done a full report on the programs located in the Science division. The report submitted by the assessment work group reflects my perspective as acting division chair. I do think that Dr. Douglas can provide additional helpful input when she returns from sabbatical in August since she knows the programs other than nursing better than I do.

Here are the comments I would add to the assessment committee's report:

Electronics

The program head has worked very hard to increase enrollment and the number of graduates and I anticipate that both of these will continue to rise. In my opinion, his work could be facilitated by the development of a formal plan for continuing to increase headcount, FTES, and graduates. This plan should identify measurable recruitment and retention goals and list specific actions which will be taken to achieve those goals, accompanied by a timeline for implementation. Since the program head also carries a full time teaching load, the division chair will need to be active in this effort.

The cost of equipment and supplies for this program falls in the "high" category. Because equipment must be updated frequently in order for the curriculum to stay current, I suggest that the college investigate possible partnerships with some local employers, such as GE-Fanuc or Comdial. Perhaps basic electronics courses could be offered here at the college while specified 200 level courses could be offered at the business, using their equipment and software.

Mechanical Technology
I believe this program will also benefit from a formal plan to increase enrollment and graduates. Because there are many "successful non-completers" in this program, the college should consider whether students are best served by a business/industry training approach or whether the degree program remains a viable option. The cost of equipment/supplies for this program falls in the "moderate" category (1995-96 was an unusual year).

Nursing
The job market data provided by the **Guide to Occupations in Virginia** does not reflect the downsizing occurring at the University of Virginia Medical Center and Martha Jefferson Hospital. Previously, home health jobs in the area have been limited to baccalaureate-prepared graduates; it is not clear whether this will continue to be a hiring practice in the future. Long term care facilities continue to experience a shortage of registered nurses and will employ more program graduates as acute care jobs become less easy to obtain. The job market's effect on student enrollment will need to be monitored; if the majority of graduates begin taking jobs outside of acute care settings, then the curriculum will need to be reviewed to insure that students are being adequately prepared for other settings.

An increasing number of students are interested in transfer to baccalaureate programs; this trend will also need to be watched closely so that the curriculum remains responsive to the needs of these students.

Equipment/supply costs for this program fall in the "moderate" category but adjunct faculty cost is high because of the need to pay a competitive hourly wage in order to fill part-time positions. The program does not purchase any equipment that typically is out-of-date in several years; instead, students use this equipment in the clinical setting.

Automotive Technology Certificate
Since I authored the assessment work group's report on this program, I will not comment further.

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Business and Management (AAS)
Accounting

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	64		28	
Fall 1992	55	-14.1%	22	-21.4%
Fall 1993	71	29.1%	29	31.8%
Fall 1994	51	-28.2%	22	-24.1%
Fall 1995	57	11.8%	27	22.7%
AVERAGE	59.6	-0.3%	25.6	2.2%

II. Graduates

Year	Number	Pct. Change
1990-91	12	
1991-92	7	-41.7%
1992-93	2	-71.4%
1993-94	6	200.0%
1994-95	6	0.0%
AVERAGE	6.6	-21.7%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No. Returning	No. Not Returning	Pct.
1990-91	30	36	45.5%	--	--	--
1991-92	24	40	37.5%	--	--	--
1992-93	27	28	49.1%	--	--	--
1993-94	30	38	44.1%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	27.8	35.5	44.0%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Category	Excellent		Good		Average		Poor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Technical Job Skills	3	60.0%	1	20.0%	1	20.0%	0	0.0%
Quality of Work	3	60.0%	1	20.0%	1	20.0%	0	0.0%
Quantity of Work	4	80.0%	1	20.0%	0	0.0%	0	0.0%
Attitude toward Work	3	60.0%	2	40.0%	0	0.0%	0	0.0%
Cooperation with Fellow Workers	4	80.0%	1	20.0%	0	0.0%	0	0.0%
Cooperation with Supervisors	3	50.0%	3	50.0%	0	0.0%	0	0.0%
Math Skills	3	60.0%	2	40.0%	0	0.0%	0	0.0%
Writing Skills	0	0.0%	3	60.0%	2	40.0%	0	0.0%
Speaking Skills	0	0.0%	2	50.0%	2	50.0%	0	0.0%
Research Skills	0	0.0%	3	75.0%	1	25.0%	0	0.0%
Logic Skills	0	0.0%	3	75.0%	1	25.0%	0	0.0%

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No.	Pct.
Employed Full-Time in a Related Field	8	44.4%
Employed Full-Time in an Unrelated Field	3	16.7%
Employed Part-Time in a Related Field	4	22.2%
Employed Part-Time in an Unrelated Field	1	5.6%
Unemployed--Seeking Employment	1	5.6%
Unemployed--NOT Seeking Employment	1	5.6%
TOTAL	18	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No	Pct
Excellent	6	46.2%
Good	6	46.2%
Fair	0	0.0%
Poor	1	7.7%
TOTAL	13	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No	Pct
Better Prepared	6	54.5%
About as Well Prepared	5	45.5%
Not as Well Prepared	0	0.0%
TOTAL	11	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	$16,234
Median	$16,234
Minimum	$13,468
Maximum	$19,000

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	1	20.0%
Good	4	80.0%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	5	100.0%

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	1	50.0%
About as Well Prepared	1	50.0%
Not as Well Prepared	0	0.0%
TOTAL	2	100.0%

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings -- Virginia	Growth Rate -- Virginia	Average Annual Openings -- Ch'ville MSA	Growth Rate -- Ch'ville MSA
Accountant/Auditor	1,336	30%	38	32%
Total for All Occupations	123,366	18%	2,879	18%

(2) Supply Data

Related Occupation: Accountants and Auditors

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	42	2.5%	--	--
Community College--Certificate/Diploma	24	1.4%	--	--
Community College--Associate Degree	302	18.1%	6	100.0%
Bachelor's Degree and Higher	1,241	74.3%	--	--
Other	62	3.7%	--	--
TOTAL	1,671	100.0%	6	100.0%

(3) Wage Data

Related Occupation	Employment Sector	Industry	Annual Equivalent Salary
ACCOUNTANTS & AUDITORS			
Accountants & Auditors	US	All	$31,824 (median)
	VA	Manuafacturing	$28,704-$41,964
	Ch'ville MSA	Manufacturing	$28,704-$41,964
Accountant	VA	Private	$23,449-$34,700
	VA	State Gov't	$21,932-$33,486
	Ch'ville MSA	Local Gov't	$28,911-$44,811
Budget Analyst	VA	Private	$29,005-$43,486
	VA	State Gov't	$23,975-$36,607
	Ch'ville MSA	Local Gov't	$37,034-$37,034

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Bussiness and Management (AAS)
General Management

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	111		45	
Fall 1992	118	6.3%	47	4.4%
Fall 1993	122	3.4%	42	-10.6%
Fall 1994	108	-11.5%	42	0.0%
Fall 1995	86	-20.4%	36	-14.3%
AVERAGE	109.0	-5.5%	42.4	-5.1%

II. Graduates

Year	Number	Pct. Change
1990-91	10	
1991-92	7	-30.0%
1992-93	11	57.1%
1993-94	10	-9.1%
1994-95	9	-10.0%
AVERAGE	9.4	2.0%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No. Returning	No. Not Returning	Pct.
1990-91	57	76	42.9%	--	--	--
1991-92	55	56	49.5%	--	--	--
1992-93	59	59	50.0%	--	--	--
1993-94	43	69	38.4%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	53.5	65.0	45.2%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Category	Excellent		Good		Average		Poor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Technical Job Skills	3	30.0%	6	60.0%	1	10.0%	0	0.0%
Quality of Work	3	33.3%	5	55.6%	1	11.1%	0	0.0%
Quantity of Work	3	30.0%	5	50.0%	2	20.0%	0	0.0%
Attitude toward Work	5	50.0%	4	40.0%	1	10.0%	0	0.0%
Cooperation with Fellow Workers	5	50.0%	5	50.0%	0	0.0%	0	0.0%
Cooperation with Supervisors	4	40.0%	6	60.0%	0	0.0%	0	0.0%
Math Skills	3	30.0%	3	30.0%	3	30.0%	1	10.0%
Writing Skills	1	11.1%	6	66.7%	1	11.1%	1	11.1%
Speaking Skills	2	20.0%	7	70.0%	0	0.0%	1	10.0%
Research Skills	3	37.5%	4	50.0%	1	12.5%	0	0.0%
Logic Skills	4	40.0%	2	20.0%	4	40.0%	0	0.0%

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No.	Pct.
Employed Full-Time in a Related Field	22	71.0%
Employed Full-Time in an Unrelated Field	4	12.9%
Employed Part-Time in a Related Field	1	3.2%
Employed Part-Time in an Unrelated Field	2	6.5%
Unemployed--Seeking Employment	0	0.0%
Unemployed--NOT Seeking Employment	2	6.5%
TOTAL	31	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No.	Pct.
Excellent	8	25.8%
Good	22	71.0%
Fair	1	3.2%
Poor	0	0.0%
TOTAL	31	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No.	Pct.
Better Prepared	5	17.9%
About as Well Prepared	22	78.6%
Not as Well Prepared	1	3.6%
TOTAL	28	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	$26.153
Median	$20.266
Minimum	$15.500
Maximum	$50.000

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	1	20.0%
Good	4	80.0%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	5	100.0%

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	1	50.0%
About as Well Prepared	1	50.0%
Not as Well Prepared	0	0.0%
TOTAL	2	100.0%

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings -- Virginia	Growth Rate -- Virginia	Average Annual Openings -- Ch'ville MSA	Growth Rate -- Ch'ville MSA
General Managers	4,753	18%	109	17%
Personnel Managers	--	22%	--	19%
Finance Managers	1,197	24%	21	25%
Total for All Occupations	123,366	18%	2,879	18%

(2) Supply Data

Related Occupation: General Managers

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	1,733	19.4%	21	75.0%
Community College--Certificate/Diploma	116	1.3%	7	25.0%
Community College--Associate Degree	4	0.0%	--	--
Bachelor's Degree and Higher	5,060	56.6%	--	--
Other	2,024	22.6%	--	--
TOTAL	8,937	100.0%	28	100.0%

Related Occupation: Personnel Managers

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	1	0.7%	--	--
Community College--Certificate/Diploma	--	--	--	--
Community College--Associate Degree	--	--	--	--
Bachelor's Degree and Higher	137	94.5%	--	--
Other	7	4.8%	--	--
TOTAL	145	100.0%	--	--

Related Occupation: Finance Managers

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	--	--	--	--
Community College--Certificate/Diploma	--	--	--	--
Community College--Associate Degree	--	--	--	--
Bachelor's Degree and Higher	554	100.0%	--	--
Other	--	--	--	--
TOTAL	554	100.0%	--	--

(3) Wage Data

Related Occupation	Employment Sector	Industry	Annual Equivalent Salary
GENERAL MANAGERS			
Managers/Administrators	US	All	$39,624 (median)
Business Manager A	VA	State Gov't	$23,975-$36,607
Business Manager C	VA	State Gov't	$34,240-$52,280
City/County Manager	Ch'vlle MSA	Local Gov't	$68,710-$105,663
PERSONNEL MANAGERS			
Personnel/Train/Labr Reltns Specialist	US	All	$31,096 (median)
	VA	Manufacturing	$24,284-$46,384
	Ch'vlle MSA	Manufacturing	$15,444-$37,544
Personnel & Labor Relations Managers	US	All	$37,596 (median)
Human Resource Manager	VA	State Gov't	$34,240-$52,280
Director Human Resources	Ch'vlle MSA	Local Gov't	$46,561-$72,169
FINANCE MANGERS			
Financial Mangers	US	All	$40,352 (median)
Controller	VA	State Gov't	$48,900-$74,663
Investment Officer	VA	State Gov't	$53,457-$81,621
Director of Finance	Ch'vlle MSA	Local Gov't	$63,748-$63,748

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Business and Management (AAS)
Marketing

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	21		12	
Fall 1992	21	0.0%	10	-16.7%
Fall 1993	17	-19.0%	7	-30.0%
Fall 1994	17	0.0%	7	0.0%
Fall 1995	9	-47.1%	4	-42.9%
AVERAGE	17.0	-16.5%	8.0	-22.4%

II. Graduates

Year	Number	Pct. Change
1990-91	4	
1991-92	3	-25.0%
1992-93	0	--
1993-94	2	--
1994-95	2	0.0%
AVERAGE	2.2	-12.5%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No. Returning	No. Not Returning	Pct.
1990-91	10	19	34.5%	--	--	--
1991-92	8	13	38.1%	--	--	--
1992-93	13	8	61.9%	--	--	--
1993-94	5	11	31.3%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	9.0	12.8	41.4%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Category	Excellent		Good		Average		Poor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Technical Job Skills	1	25.0%	3	75.0%	0	0.0%	0	0.0%
Quality of Work	1	25.0%	3	75.0%	0	0.0%	0	0.0%
Quantity of Work	2	50.0%	2	50.0%	0	0.0%	0	0.0%
Attitude toward Work	2	50.0%	1	25.0%	1	25.0%	0	0.0%
Cooperation with Fellow Workers	3	75.0%	1	25.0%	0	0.0%	0	0.0%
Cooperation with Supervisors	4	100.0%	0	0.0%	0	0.0%	0	0.0%
Math Skills	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Writing Skills	0	0.0%	4	100.0%	0	0.0%	0	0.0%
Speaking Skills	0	0.0%	4	100.0%	0	0.0%	0	0.0%
Research Skills	1	25.0%	3	75.0%	0	0.0%	0	0.0%
Logic Skills	0	0.0%	4	100.0%	0	0.0%	0	0.0%

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No.	Pct.
Employed Full-Time in a Related Field	6	66.7%
Employed Full-Time in an Unrelated Field	2	22.2%
Employed Part-Time in a Related Field	0	0.0%
Employed Part-Time in an Unrelated Field	1	11.1%
Unemployed–Seeking Employment	0	0.0%
Unemployed–NOT Seeking Employment	0	0.0%
TOTAL	9	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No.	Pct.
Excellent	2	25.0%
Good	6	75.0%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	8	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No.	Pct.
Better Prepared	3	37.5%
About as Well Prepared	5	62.5%
Not as Well Prepared	0	0.0%
TOTAL	8	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	$13,500
Median	--
Minimum	$13,500
Maximum	$13,500

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	1	33.3%
Good	1	33.3%
Fair	1	33.3%
Poor	0	0.0%
TOTAL	3	100.0%

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	1	100.0%
About as Well Prepared	0	0.0%
Not as Well Prepared	0	0.0%
TOTAL	1	100.0%

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings -- Virginia	Growth Rate -- Virginia	Average Annual Openings -- Ch'ville MSA	Growth Rate -- Ch'ville MSA
Advertising/Public Relations	889	41%	17	24%
Sales Workers & Managers	13,195	22%	327	25%
Total for All Occupations	123,366	18%	2,879	18%

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Business and Office (AAS)
Office Systems Technology

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	61		36	
Fall 1992	61	0.0%	31	-13.9%
Fall 1993	60	-1.6%	32	3.2%
Fall 1994	64	6.7%	32	0.0%
Fall 1995	59	-7.8%	24	-25.0%
AVERAGE	61.0	-0.7%	31.0	-8.9%

II. Graduates

Year	Number	Pct. Change
1990-91	5	
1991-92	3	-40.0%
1992-93	5	66.7%
1993-94	5	0.0%
1994-95	7	40.0%
AVERAGE	5.0	16.7%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No. Returning	No. Not Returning	Pct.
1990-91	27	23	54.0%	--	--	--
1991-92	28	33	45.9%	--	--	--
1992-93	28	32	46.7%	--	--	--
1993-94	26	32	44.8%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	27.3	30.0	47.8%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Category	Excellent		Good		Average		Poor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Technical Job Skills	1	20.0%	3	60.0%	0	0.0%	1	20.0%
Quality of Work	3	60.0%	1	20.0%	0	0.0%	1	20.0%
Quantity of Work	2	66.7%	0	0.0%	1	33.3%	0	0.0%
Attitude toward Work	2	40.0%	3	60.0%	0	0.0%	0	0.0%
Cooperation with Fellow Workers	5	100.0%	0	0.0%	0	0.0%	0	0.0%
Cooperation with Supervisors	5	100.0%	0	0.0%	0	0.0%	0	0.0%
Math Skills	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Writing Skills	2	40.0%	1	20.0%	1	20.0%	1	20.0%
Speaking Skills	2	40.0%	2	40.0%	1	20.0%	0	0.0%
Research Skills	1	33.3%	2	66.7%	0	0.0%	0	0.0%
Logic Skills	1	25.0%	3	75.0%	0	0.0%	0	0.0%

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No.	Pct.
Employed Full-Time in a Related Field	6	60.0%
Employed Full-Time in an Unrelated Field	1	10.0%
Employed Part-Time in a Related Field	1	10.0%
Employed Part-Time in an Unrelated Field	2	20.0%
Unemployed--Seeking Employment	0	0.0%
Unemployed--NOT Seeking Employment	0	0.0%
TOTAL	10	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No.	Pct.
Excellent	4	50.0%
Good	4	50.0%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	8	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No.	Pct.
Better Prepared	5	55.6%
About as Well Prepared	2	22.2%
Not as Well Prepared	2	22.2%
TOTAL	9	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	$15,000
Median	--
Minimum	$15,000
Maximum	$15,000

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	0	0.0%
Good	2	100.0%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	2	100.0%

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	0	--
About as Well Prepared	0	--
Not as Well Prepared	0	--
TOTAL	0	--

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings -- Virginia	Growth Rate -- Virginia	Average Annual Openings -- Ch'ville MSA	Growth Rate -- Ch'ville MSA
Clerical Managers	1,607	18%	39	18%
Total for All Occupations	123,366	18%	2,879	18%

(2) Supply Data

Related Occupation: Clerical Managers

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	--	--	--	--
Community College--Certificate/Diploma	32	3.0%	--	--
Community College--Associate Degree	580	54.4%	9	100.0%
Bachelor's Degree and Higher	44	4.1%	--	--
Other	411	38.5%	--	--
TOTAL	1,067	100.0%	9	100.0%

(3) Wage Data

Related Occupation	Employment Sector	Industry	Annual Equivalent Salary
CLERICAL MANAGERS			
General Office Supervisors	US	All	$28,496 (median)
Office Manager	VA	State Gov't	$21,932-$33,486
Clerical Supervisor	Ch'ville MSA	Local Gov't	$21,672-$33,591
Manager, Office/Clerical Supervisor	VA	Manufacturing	$18,720-$32,760
	Ch'ville MSA	Manufacturing	$21,060-$32,760

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Computer Information Systems (AAS)

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	101		50	
Fall 1992	111	9.9%	49	-2.0%
Fall 1993	116	4.5%	60	22.4%
Fall 1994	113	-2.6%	51	-15.0%
Fall 1995	110	-2.7%	52	2.0%
AVERAGE	110.2	2.3%	52.4	1.9%

II. Graduates

Year	Number	Pct. Change
1990-91	10	
1991-92	9	-10.0%
1992-93	8	-11.1%
1993-94	9	12.5%
1994-95	11	22.2%
AVERAGE	9.4	3.4%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No. Returning	No. Not Returning	Pct.
1990-91	47	72	39.5%	--	--	--
1991-92	40	61	39.6%	--	--	--
1992-93	49	62	44.1%	--	--	--
1993-94	55	54	50.5%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	47.8	62.3	43.4%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Category	Excellent		Good		Average		Poor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Technical Job Skills	1	50.0%	0	0.0%	1	50.0%	0	0.0%
Quality of Work	1	50.0%	0	0.0%	1	50.0%	0	0.0%
Quantity of Work	0	0.0%	1	50.0%	1	50.0%	0	0.0%
Attitude toward Work	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Cooperation with Fellow Workers	1	50.0%	1	50.0%	0	0.0%	0	0.0%
Cooperation with Supervisors	1	50.0%	1	50.0%	0	0.0%	0	0.0%
Math Skills	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Writing Skills	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Speaking Skills	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Research Skills	0	0.0%	0	0.0%	1	100.0%	0	0.0%
Logic Skills	0	0.0%	2	100.0%	0	0.0%	0	0.0%

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No.	Pct.
Employed Full-Time in a Related Field	8	50.0%
Employed Full-Time in an Unrelated Field	4	25.0%
Employed Part-Time in a Related Field	1	6.3%
Employed Part-Time in an Unrelated Field	1	6.3%
Unemployed--Seeking Employment	2	12.5%
Unemployed--NOT Seeking Employment	0	0.0%
TOTAL	16	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No.	Pct.
Excellent	6	46.2%
Good	4	30.8%
Fair	2	15.4%
Poor	1	7.7%
TOTAL	13	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No.	Pct.
Better Prepared	8	66.7%
About as Well Prepared	4	33.3%
Not as Well Prepared	0	0.0%
TOTAL	12	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	$32,667
Median	$24,000
Minimum	$20,000
Maximum	$54,000

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	1	33.3%
Good	2	66.7%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	3	100.0%

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	1	50.0%
About as Well Prepared	1	50.0%
Not as Well Prepared	0	0.0%
TOTAL	2	100.0%

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings -- Virginia	Growth Rate -- Virginia	Average Annual Openings -- Ch'ville MSA	Growth Rate -- Ch'ville MSA
Programmers	1,454	54%	19	37%
Operators	277	4%	6	12%
Data Entry	370	10%	9	15%
Total for All Occupations	123,366	18%	2,879	18%

(2) Supply Data

Related Occupation: Computer Programmers and Aides

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	2,708	54.8%	21	75.0%
Community College--Certificate/Diploma	102	2.1%	--	--
Community College--Associate Degree	457	9.3%	7	25.0%
Bachelor's Degree and Higher	1,142	23.1%	--	--
Other	529	10.7%	--	--
TOTAL	4,938	100.0%	28	100.0%

Related Occupation: Computer Operators

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	2,708	75.0%	21	75.0%
Community College--Certificate/Diploma	75	2.1%	--	--
Community College--Associate Degree	457	12.6%	7	25.0%
Bachelor's Degree and Higher	124	3.4%	--	--
Other	249	6.9%	--	--
TOTAL	3,613	100.0%	28	100.0%

Related Occupation: Data Entry Keyers

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	--	--	--	--
Community College--Certificate/Diploma	21	12.0%	--	--
Community College--Associate Degree	--	--	--	--
Bachelor's Degree and Higher	3	1.7%	--	--
Other	151	86.3%	--	--
TOTAL	175	100.0%	--	--

(3) Wage Data

Related Occupation	Employment Sector	Industry	Annual Equivalent Salary
COMPUTER PROGRAMMERS			
Computer Programmers	US	All	$38,844 (median)
	VA	Manufacturing	$28,704-$41,964
Programmer/Analyst	VA	State Gov't	$28,652-$43,747
	Ch'Ville MSA	Local Gov't	$35,244-$36,126
COMPUTER OPERATORS			
Computer Operators	US	All	$22,724 (median)
Computer Operators, exc. periph equip	VA	Manufacturing	$15,444-$24,284
	Ch'Ville MSA	Manufacturing	$19,864-$28,704
Computer Operations Technician	VA	State Gov't	$16,788-$25,632
Computer Operator	Ch'Ville MSA	Local Gov't	$17,829-$24,961
DATA-ENTRY KEYERS			
Data-Entry Keyers	US	All	$17,888(median)
	VA	Manufacturing	$14,664-$19,344
	Ch'Ville MSA	Manufacturing	$14,664-$14,664
Data-Entry Operator	Ch'Ville MSA	Local Gov't	$13,970-$21,653

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Electrical/Electronics Technology (AAS)
Electronics Technology

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	52		25	
Fall 1992	60	15.4%	29	16.0%
Fall 1993	52	-13.3%	24	-17.2%
Fall 1994	58	11.5%	28	16.7%
Fall 1995	62	6.9%	29	3.6%
AVERAGE	56.8	5.1%	27.0	4.7%

II. Graduates

Year	Number	Pct. Change
1990-91	8	
1991-92	2	-75.0%
1992-93	3	50.0%
1993-94	1	-66.7%
1994-95	6	500.0%
AVERAGE	4.0	102.1%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No. Returning	No. Not Returning	Pct.
1990-91	25	25	50.0%	--	--	--
1991-92	26	26	50.0%	--	--	--
1992-93	25	35	41.7%	--	--	--
1993-94	24	27	47.1%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	25.0	28.3	47.2%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Category	Excellent		Good		Average		Poor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Technical Job Skills	2	66.7%	0	0.0%	1	33.3%	0	0.0%
Quality of Work	2	66.7%	1	33.3%	0	0.0%	0	0.0%
Quantity of Work	2	66.7%	1	33.3%	0	0.0%	0	0.0%
Attitude toward Work	2	66.7%	1	33.3%	0	0.0%	0	0.0%
Cooperation with Fellow Workers	0	0.0%	3	100.0%	0	0.0%	0	0.0%
Cooperation with Supervisors	1	33.3%	2	66.7%	0	0.0%	0	0.0%
Math Skills	1	33.3%	1	33.3%	1	33.3%	0	0.0%
Writing Skills	1	33.3%	0	0.0%	2	66.7%	0	0.0%
Speaking Skills	1	33.3%	0	0.0%	2	66.7%	0	0.0%
Research Skills	1	33.3%	1	33.3%	1	33.3%	0	0.0%
Logic Skills	1	33.3%	1	33.3%	1	33.3%	0	0.0%

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No.	Pct.
Employed Full-Time in a Related Field	6	85.7%
Employed Full-Time in an Unrelated Field	0	0.0%
Employed Part-Time in a Related Field	0	0.0%
Employed Part-Time in an Unrelated Field	1	14.3%
Unemployed--Seeking Employment	0	0.0%
Unemployed--NOT Seeking Employment	0	0.0%
TOTAL	7	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No	Pct
Excellent	2	28.6%
Good	4	57.1%
Fair	0	0.0%
Poor	1	14.3%
TOTAL	7	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No	Pct
Better Prepared	5	71.4%
About as Well Prepared	2	28.6%
Not as Well Prepared	0	0.0%
TOTAL	7	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	$28,000
Median	--
Minimum	$28,000
Maximum	$28,000

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	0	--
Good	0	--
Fair	0	--
Poor	0	--
TOTAL	0	--

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	0	--
About as Well Prepared	0	--
Not as Well Prepared	0	--
TOTAL	0	--

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings -- Virginia	Growth Rate -- Virginia	Average Annual Openings -- Ch'ville MSA	Growth Rate -- Ch'ville MSA
Engineering Technician	755	38%	12	15%
Electrician	968	20%	23	25%
Total for All Occupations	123,366	18%	2,879	18%

(2) Supply Data

Related Occupation: Engineering Technicians

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	--	--	--	--
Community College--Certificate/Diploma	72	8.9%	--	--
Community College--Associate Degree	270	33.5%	1	100.0%
Bachelor's Degree and Higher	185	22.9%	--	--
Other	280	34.7%	--	--
TOTAL	807	100.0%	1	100.0%

Related Occupation: Electricians

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	391	43.6%	7	53.8%
Community College--Certificate/Diploma	69	7.7%	1	7.7%
Community College--Associate Degree	--	--	--	--
Bachelor's Degree and Higher	--	--	--	--
Other	436	48.7%	5	38.5%
TOTAL	896	100.0%	13	100.0%

(3) Wage Data

Related Occupation	Employment Sector	Industry	Annual Equivalent Salary
ELECTRICIANS & LINE INSTALLERS			
Electrician	US	All	$28,548 (median)
	VA	Private	$21,178-$30,321
	VA	State Gov't	$18,352-$28,021
Maintenance Electrician	VA	Manufacturing	$24,752-$35,984
	Ch'ville MSA	Manufacturing	$21,008-$28,496
ENGINEERING TECHNICIANS			
Electrical/Electronic Technicians	US	All	$30,732 (median)
Electronic Technician	VA	State Gov't	$21,932-$33,486
Engineering Tech./Electronics Tech	VA	Manufacturing	$28,704-$33,124
	Ch'ville MSA	Manufacturing	$19,864-$28,704

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Mechanical Technology (AAS)
Computer-Aided Drafting and Design

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	21		8	
Fall 1992	30	42.9%	14	75.0%
Fall 1993	13	-56.7%	7	-50.0%
Fall 1994	23	76.9%	13	85.7%
Fall 1995	38	65.2%	21	61.5%
AVERAGE	25.0	32.1%	12.6	43.1%

II. Graduates

Year	Number	Pct. Change
1990-91	1	
1991-92	2	100.0%
1992-93	1	-50.0%
1993-94	1	0.0%
1994-95	2	100.0%
AVERAGE	1.4	37.5%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No. Returning	No. Not Returning	Pct.
1990-91	10	17	37.0%	--	--	--
1991-92	13	8	61.9%	--	--	--
1992-93	13	17	43.3%	--	--	--
1993-94	6	7	46.2%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	10.5	12.3	47.1%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Category	Excellent		Good		Average		Poor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Technical Job Skills	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Quality of Work	1	50.0%	1	50.0%	0	0.0%	0	0.0%
Quantity of Work	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Attitude toward Work	0	0.0%	1	50.0%	1	50.0%	0	0.0%
Cooperation with Fellow Workers	0	0.0%	1	50.0%	1	50.0%	0	0.0%
Cooperation with Supervisors	0	0.0%	1	50.0%	1	50.0%	0	0.0%
Math Skills	1	50.0%	0	0.0%	0	0.0%	1	50.0%
Writing Skills	0	0.0%	1	50.0%	1	50.0%	0	0.0%
Speaking Skills	0	0.0%	1	50.0%	1	50.0%	0	0.0%
Research Skills	0	0.0%	1	50.0%	1	50.0%	0	0.0%
Logic Skills	0	0.0%	2	100.0%	0	0.0%	0	0.0%

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No.	Pct.
Employed Full-Time in a Related Field	6	100.0%
Employed Full-Time in an Unrelated Field	0	0.0%
Employed Part-Time in a Related Field	0	0.0%
Employed Part-Time in an Unrelated Field	0	0.0%
Unemployed--Seeking Employment	0	0.0%
Unemployed--NOT Seeking Employment	0	0.0%
TOTAL	6	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No.	Pct.
Excellent	3	50.0%
Good	1	16.7%
Fair	2	33.3%
Poor	0	0.0%
TOTAL	6	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No.	Pct.
Better Prepared	2	33.3%
About as Well Prepared	2	33.3%
Not as Well Prepared	2	33.3%
TOTAL	6	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	--
Median	--
Minimum	--
Maximum	--

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	1	33.3%
Good	2	66.7%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	3	100.0%

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	0	--
About as Well Prepared	0	--
Not as Well Prepared	0	--
TOTAL	0	--

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings -- Virginia	Growth Rate -- Virginia	Average Annual Openings -- Ch'ville MSA	Growth Rate -- Ch'ville MSA
Drafter	296	5%	4	-3%
Total for All Occupations	123,366	18%	2,879	18%

(2) Supply Data

Related Occupation: Drafters

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	534	51.8%	6	85.7%
Community College--Certificate/Diploma	105	10.2%	--	--
Community College--Associate Degree	188	18.2%	1	14.3%
Bachelor's Degree and Higher	159	15.4%	--	--
Other	45	4.4%	--	--
TOTAL	1,031	100.0%	7	100.0%

(3) Wage Data

Related Occupation	Employment Sector	Industry	Annual Equivalent Salary
DRAFTERS			
Drafting Occupations	US	All	$27,456 (median)
CADD Technician	VA	State Gov't	$20,062-$30,632
Drafting Technician	Ch'ville MSA	Local Gov't	$20,640-$21,992
Engineering Tech./Technical Drafter	VA	Manufacturing	$24,284-$33,124
	Ch'ville MSA	Manufacturing	$19,864-$33,124

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Nursing (AAS)

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	124		79	
Fall 1992	138	11.3%	82	3.8%
Fall 1993	146	5.8%	75	-8.5%
Fall 1994	140	-4.1%	70	-6.7%
Fall 1995	142	1.4%	70	0.0%
AVERAGE	138.0	3.6%	75.2	-2.9%

II. Graduates

Year	Number	Pct. Change
1990-91	42	
1991-92	37	-11.9%
1992-93	47	27.0%
1993-94	50	6.4%
1994-95	54	8.0%
AVERAGE	46.0	7.4%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No. Returning	No. Not Returning	Pct.
1990-91	55	67	45.1%	--	--	--
1991-92	61	63	49.2%	--	--	--
1992-93	60	75	44.4%	--	--	--
1993-94	59	37	61.5%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	58.8	60.5	50.0%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Category	Excellent		Good		Average		Poor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Technical Job Skills	11	25.6%	23	53.5%	9	20.9%	0	0.0%
Quality of Work	18	40.9%	18	40.9%	8	18.2%	0	0.0%
Quantity of Work	13	30.2%	18	41.9%	10	23.3%	2	4.7%
Attitude toward Work	19	43.2%	15	34.1%	8	18.2%	2	4.5%
Cooperation with Fellow Workers	22	50.0%	14	31.8%	5	11.4%	3	6.8%
Cooperation with Supervisors	25	61.0%	11	26.8%	4	9.8%	1	2.4%
Math Skills	5	16.7%	17	56.7%	8	26.7%	0	0.0%
Writing Skills	11	25.6%	21	48.8%	11	25.6%	0	0.0%
Speaking Skills	13	30.2%	18	41.9%	10	23.3%	2	4.7%
Research Skills	6	22.2%	9	33.3%	12	44.4%	0	0.0%
Logic Skills	11	25.6%	19	44.2%	12	27.9%	1	2.3%

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No.	Pct.
Employed Full-Time in a Related Field	87	78.4%
Employed Full-Time in an Unrelated Field	0	0.0%
Employed Part-Time in a Related Field	23	20.7%
Employed Part-Time in an Unrelated Field	0	0.0%
Unemployed--Seeking Employment	1	0.9%
Unemployed--NOT Seeking Employment	0	0.0%
TOTAL	111	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No	Pct
Excellent	59	53.6%
Good	46	41.8%
Fair	5	4.5%
Poor	0	0.0%
TOTAL	110	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No	Pct
Better Prepared	49	46.7%
About as Well Prepared	53	50.5%
Not as Well Prepared	3	2.9%
TOTAL	105	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	$25,915
Median	$27,550
Minimum	$12,680
Maximum	$34,000

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	5	62.5%
Good	3	37.5%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	8	100.0%

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	4	80.0%
About as Well Prepared	1	20.0%
Not as Well Prepared	0	0.0%
TOTAL	5	100.0%

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings -- Virginia	Growth Rate -- Virginia	Average Annual Openings -- Ch'ville MSA	Growth Rate -- Ch'ville MSA
Registered Nurse	2,150	35%	77	38%
Licensed Practical Nurse	881	33%	27	29%
Total for All Occupations	123,366	18%	2,879	18%

(2) Supply Data

Related Occupation: Licensed Practical Nurse

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	175	49.7%	--	--
Community College--Certificate/Diploma	177	50.3%	--	--
Community College--Associate Degree	--	--	--	--
Bachelor's Degree and Higher	--	--	--	--
Other	--	--	--	--
TOTAL	352	100.0%	--	--

Related Occupation: Registered Nursse

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	1	0.0%	--	--
Community College--Certificate/Diploma	--	--	--	--
Community College--Associate Degree	1,037	44.4%	50	100.0%
Bachelor's Degree and Higher	1,030	44.1%	--	--
Other	265	11.4%	--	--
TOTAL	2,333	100.0%	50	100.0%

(3) Wage Data

Related Occupation	Employment Sector	Industry	Annual Equivalent Salary
REGISTERED NURSES			
Registered Nurse	US	All	$35,724 (median)
	VA	State Gov't	$26,209-$40,018
	VA	Hospitals	$26,955-$40,224
Nurse	Ch'ville MSA	Public School	$15,407-$24,422
LICENSED PRACTICAL NURSES			
Licensed Practical Nurses	US	All	$22,620 (median)
	VA	Hospitals	$18,067-$26,075
Practical Nurse A	VA	State Gov't	$16,788-$25,632

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Protective Services (AAS)
Police Science

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	57		35	
Fall 1992	61	7.0%	36	2.9%
Fall 1993	70	14.8%	44	22.2%
Fall 1994	67	-4.3%	36	-18.2%
Fall 1995	59	-11.9%	30	-16.7%
AVERAGE	62.8	1.4%	36.2	-2.4%

II. Graduates

Year	Number	Pct. Change
1990-91	7	
1991-92	4	-42.9%
1992-93	13	225.0%
1993-94	14	7.7%
1994-95	13	-7.1%
AVERAGE	10.2	45.7%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No. Returning	No. Not Returning	Pct.
1990-91	20	22	47.6%	--	--	--
1991-92	24	33	42.1%	--	--	--
1992-93	26	35	42.6%	--	--	--
1993-94	27	33	45.0%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	24.3	30.8	44.3%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Category	Excellent		Good		Average		Poor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Technical Job Skills	2	40.0%	3	60.0%	0	0.0%	0	0.0%
Quality of Work	2	40.0%	3	60.0%	0	0.0%	0	0.0%
Quantity of Work	2	50.0%	2	50.0%	0	0.0%	0	0.0%
Attitude toward Work	0	0.0%	3	60.0%	2	40.0%	0	0.0%
Cooperation with Fellow Workers	0	0.0%	4	80.0%	0	0.0%	1	20.0%
Cooperation with Supervisors	0	0.0%	4	80.0%	1	20.0%	0	0.0%
Math Skills	0	0.0%	3	100.0%	0	0.0%	0	0.0%
Writing Skills	1	20.0%	2	40.0%	2	40.0%	0	0.0%
Speaking Skills	1	20.0%	3	60.0%	1	20.0%	0	0.0%
Research Skills	2	50.0%	2	50.0%	0	0.0%	0	0.0%
Logic Skills	1	20.0%	3	60.0%	1	20.0%	0	0.0%

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No	Pct.
Employed Full-Time in a Related Field	6	24.0%
Employed Full-Time in an Unrelated Field	8	32.0%
Employed Part-Time in a Related Field	1	4.0%
Employed Part-Time in an Unrelated Field	4	16.0%
Unemployed--Seeking Employment	2	8.0%
Unemployed--NOT Seeking Employment	4	16.0%
TOTAL	25	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No	Pct
Excellent	9	47.4%
Good	9	47.4%
Fair	1	5.3%
Poor	0	0.0%
TOTAL	19	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No	Pct
Better Prepared	8	50.0%
About as Well Prepared	8	50.0%
Not as Well Prepared	0	0.0%
TOTAL	16	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	$16.423
Median	$18.990
Minimum	$7.200
Maximum	$22.423

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	4	40.0%
Good	5	50.0%
Fair	1	10.0%
Poor	0	0.0%
TOTAL	10	100.0%

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	4	50.0%
About as Well Prepared	4	50.0%
Not as Well Prepared	0	0.0%
TOTAL	8	100.0%

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings – Virginia	Growth Rate – Virginia	Average Annual Openings – Ch'ville MSA	Growth Rate – Ch'ville MSA
Corrections Officers	590	60%	10	62%
Police	710	18%	13	23%
Private Guards	962	28%	22	29%
Total for All Occupations	123,366	18%	2,879	18%

(2) Supply Data

Related Occupation: Police and Other Law Enforcement Officers

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	41	4.3%	--	--
Community College--Certificate/Diploma	59	6.2%	1	6.7%
Community College--Associate Degree	487	51.5%	14	93.3%
Bachelor's Degree and Higher	355	37.6%	--	--
Other	3	0.3%	--	--
TOTAL	945	100.0%	15	100.0%

Related Occupation: Corrections Officers and Jailers

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	--	--	--	--
Community College--Certificate/Diploma	3	20.0%	--	--
Community College--Associate Degree	12	80.0%	--	--
Bachelor's Degree and Higher	--	--	--	--
Other	--	--	--	--
TOTAL	15	100.0%	--	--

Related Occupation: Private Guards and Police

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	14	17.5%	--	--
Community College--Certificate/Diploma	14	17.5%	--	--
Community College--Associate Degree	35	43.8%	--	--
Bachelor's Degree and Higher	13	16.3%	--	--
Other	4	5.0%	--	--
TOTAL	80	100.0%	--	--

(3) Wage Data

Related Occupation	Employment Sector	Industry	Annual Equivalent Salary
CORRECTIONS OFFICERS & JAILERS			
Correctional Institution Officer	US	All	$25,896 (median)
Corrections Officer	VA	State Gov't	$16,788-$25,632
POLICE & OTHER LAW ENF. OFF.			
Police/Detectives, Public	US	All	$32,864 (median)
Police Officer	VA	State Gov't	$20,062-$30,632
	Ch'ville MSA	Local Gov't	$22,755-$35,721
Police Captain	VA	State Gov't	$26,209-$40,018
	Ch'ville MSA	Local Gov't	$38,480-$59,644
PRIVATE GUARDS & POLICE			
Guards/Police, excpt. public	US	All	$17,888 (median)
Guard	VA	Manufacturing	$13,936-$24,128
Security Guard	VA	State Gov't	$11,755-$17,948

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Administration of Justice (C)

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	1		0	
Fall 1992	3	200.0%	1	--
Fall 1993	3	0.0%	1	0.0%
Fall 1994	3	0.0%	2	100.0%
Fall 1995	0	--	0	--
AVERAGE	2.0	66.7%	0.8	50.0%

II. Graduates

Year	Number	Pct. Change
1990-91	1	
1991-92	6	500.0%
1992-93	9	50.0%
1993-94	9	0.0%
1994-95	11	22.2%
AVERAGE	7.2	143.1%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No Returning	No. Not Returning	Pct.
1990-91	0	3	0.0%	--	--	--
1991-92	1	0	100.0%	--	--	--
1992-93	0	3	0.0%	--	--	--
1993-94	1	2	33.3%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	0.5	2.0	33.3%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Category	Excellent		Good		Average		Poor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Technical Job Skills	1	50.0%	1	50.0%	0	0.0%	0	0.0%
Quality of Work	1	50.0%	1	50.0%	0	0.0%	0	0.0%
Quantity of Work	1	50.0%	1	50.0%	0	0.0%	0	0.0%
Attitude toward Work	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Cooperation with Fellow Workers	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Cooperation with Supervisors	0	0.0%	2	100.0%	0	0.0%	0	0.0%
Math Skills	0	0.0%	1	100.0%	0	0.0%	0	0.0%
Writing Skills	1	50.0%	0	0.0%	1	50.0%	0	0.0%
Speaking Skills	0	0.0%	1	50.0%	1	50.0%	0	0.0%
Research Skills	1	50.0%	1	50.0%	0	0.0%	0	0.0%
Logic Skills	1	50.0%	1	50.0%	0	0.0%	0	0.0%

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No	Pct
Employed Full-Time in a Related Field	4	33.3%
Employed Full-Time in an Unrelated Field	4	33.3%
Employed Part-Time in a Related Field	1	8.3%
Employed Part-Time in an Unrelated Field	1	8.3%
Unemployed--Seeking Employment	0	0.0%
Unemployed--NOT Seeking Employment	2	16.7%
TOTAL	12	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No	Pct
Excellent	8	80.0%
Good	2	20.0%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	10	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No	Pct
Better Prepared	7	70.0%
About as Well Prepared	3	30.0%
Not as Well Prepared	0	0.0%
TOTAL	10	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	$17.403
Median	$19.995
Minimum	$7.200
Maximum	$22.423

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	5	83.3%
Good	1	16.7%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	6	100.0%

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	2	50.0%
About as Well Prepared	2	50.0%
Not as Well Prepared	0	0.0%
TOTAL	4	100.0%

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings -- Virginia	Growth Rate -- Virginia	Average Annual Openings -- Ch'ville MSA	Growth Rate -- Ch'ville MSA
Corrections Officers	590	60%	10	62%
Police	710	18%	13	23%
Private Guard	962	28%	22	29%
Total for All Occupations	123,366	18%	2,879	18%

(2) Supply Data

Related Occupation: Police and Other Law Enforcement Officers

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	41	4.3%	--	--
Community College--Certificate/Diploma	59	6.2%	1	6.7%
Community College--Associate Degree	487	51.5%	14	93.3%
Bachelor's Degree and Higher	355	37.6%	--	--
Other	3	0.3%	--	--
TOTAL	945	100.0%	15	100.0%

Related Occupation: Corrections Officers and Jailers

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	--	--	--	--
Community College--Certificate/Diploma	3	20.0%	--	--
Community College--Associate Degree	12	80.0%	--	--
Bachelor's Degree and Higher	--	--	--	--
Other	--	--	--	--
TOTAL	15	100.0%	--	--

Related Occupation: Private Guards and Police

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	14	17.5%	--	--
Community College--Certificate/Diploma	14	17.5%	--	--
Community College--Associate Degree	35	43.8%	--	--
Bachelor's Degree and Higher	13	16.3%	--	--
Other	4	5.0%	--	--
TOTAL	80	100.0%	--	--

(3) Wage Data

Related Occupation	Employment Sector	Industry	Annual Equivalent Salary
CORRECTIONS OFFICERS & JAILERS			
Corrections Officer	US	All	$25,896 (median)
	VA	State Gov't	$16,788-$25,632
POLICE & OTHER LAW ENF. OFF.			
Police/Detectives, Public	US	All	$32,864 (median)
Police Officer	VA	State Gov't	$20,062-$30,632
	Ch'ville MSA	Local Gov't	$22,755-$35,721
Police Captain	VA	State Gov't	$26,209-$40,018
	Ch'ville MSA	Local Gov't	$38,480-$59,644
PRIVATE GUARDS & POLICE			
Guards/Police, excpt. Public	US	All	$17,888 (median)
Guard	VA	Manufacturing	$13,936-$24,128
Security Guard	VA	State Gov't	$11,755-$17,948

Piedmont Virginia Community College
Office of Institutional Research and Planning
Occupational Program Review

Automotive Technology (C)

I. Student Headcount and FTES

Year	Headcount	Pct. Change	FTES	Pct. Change
Fall 1991	1		1	
Fall 1992	1	0.0%	1	0.0%
Fall 1993	3	200.0%	2	100.0%
Fall 1994	6	100.0%	3	50.0%
Fall 1995	3	-50.0%	2	-33.3%
AVERAGE	2.8	62.5%	1.8	29.2%

II. Graduates

Year	Number	Pct. Change
1990-91	0	
1991-92	1	--
1992-93	1	0.0%
1993-94	1	0.0%
1994-95	0	--
AVERAGE	0.6	0.0%

III. Retention Rates

Year	Annual			Fall-to-Spring		
	No. Returning	No. Not Returning	Pct.	No. Returning	No. Not Returning	Pct.
1990-91	0	2	0.0%	--	--	--
1991-92	1	0	100.0%	--	--	--
1992-93	1	0	100.0%	--	--	--
1993-94	2	1	66.7%	--	--	--
1994-95	--	--	--	--	--	--
AVERAGE	1.0	0.8	66.7%	--	--	--

IV. Employer Survey Data (Classes of 1989-90 - 1992-93)

Between academic years 1989-90 and 1992-93, no employers of students of this curriculum participated in Employer Surveys.

V. Graduate Survey Data (Classes of 1989-90 - 1993-94)

(1) Employment Status

Employment Status	No.	Pct.
Employed Full-Time in a Related Field	0	0.0%
Employed Full-Time in an Unrelated Field	1	50.0%
Employed Part-Time in a Related Field	1	50.0%
Employed Part-Time in an Unrelated Field	0	0.0%
Unemployed--Seeking Employment	0	0.0%
Unemployed--NOT Seeking Employment	0	0.0%
TOTAL	2	100.0%

(2) Evaluation of Academic Preparation for Employment

Evaluation	No.	Pct.
Excellent	1	100.0%
Good	0	0.0%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	1	100.0%

(3) Evaluation of Academic Preparation for Employment in Comparison to Other Employees within the Same Career Field

Evaluation	No	Pct
Better Prepared	0	0.0%
About as Well Prepared	1	100.0%
Not as Well Prepared	0	0.0%
TOTAL	1	100.0%

(4) Salaries for 1993-94

Evaluation	Amount
Mean	--
Median	--
Minimum	--
Maximum	--

(5) Evaluation of Academic Preparation for College Transfer

Evaluation	No.	Pct.
Excellent	1	100.0%
Good	0	0.0%
Fair	0	0.0%
Poor	0	0.0%
TOTAL	1	100.0%

(6) Evaluation of Academic Preparation for College Transfer in Comparison to Students Starting as Freshmen at the Transfer Institution

Evaluation	No.	Pct.
Better Prepared	1	100.0%
About as Well Prepared	0	0.0%
Not as Well Prepared	0	0.0%
TOTAL	1	100.0%

VI. Service Region Job Market Data

(1) Demand Data

Related Occupation	Avg. Annual Openings -- Virginia	Growth Rate -- Virginia	Average Annual Openings -- Ch'ville MSA	Growth Rate -- Ch'ville MSA
Mechanic	848	22%	16	22%
Total for All Occupations	123,366	18%	2,879	18%

(2) Supply Data

Related Occupation: Automobile Mechanics

Training Program	Virginia	Pct.	Charlottesville MSA	Pct.
Secondary Vocational Education	1,125	89.5%	14	93.3%
Community College--Certificate/Diploma	64	5.1%	1	6.7%
Community College--Associate Degree	54	4.3%	–	–
Bachelor's Degree and Higher	–	–	–	–
Other	14	1.1%	–	–
TOTAL	1,257	100.0%	15	100.0%

(3) Wage Data

Related Occupation	Employment Sector	Industry	Annual Equivalent Salary
AUTOMOBILE MECHANICS			
Automobile Mechanics	US	All	$21,944 (median)
	Ch'ville MSA	Local Gov't	$19,657-$30,468

Piedmont Virginia Community College
Academic Program Productivity Review
(Revised 16-Apr-1996)

Business and Management (Associate in Applied Science)

PROGRAM REVIEW INDEX		
1. **Five-Year averages and FTES/FTEF**	Top Possible Score	Program Score
a. Average number of graduates	10	10
1. % of the institutional graduates (possible addition)	3	3
b. Average number of FTE majors	10	10
1. % of the total institutional FTE enrollment (possible addition)	3	3
c. Ratio SCH/FTEF	10	5
2. **Results**		
a. Assessment results -- measures of learning	15	15*
b. Graduates' satisfaction	15	15
c. % of graduates who (i) are employed in program-related work; (ii) are pursuing further study; or (iii) identify the program as significantly contributing to their functioning as workers and citizens	10	5
d. Of graduates who take the licensure exam, the percentage who fail compared to the national average in that field (possible reduction)	-5	N/A
3. **Program costs and resources**		
a. Total direct program costs / annual SCH	30	30
b. Outside revenues, by kind (possible addition)	5	N/A
4. **Length of program (possible reduction)**	-5	-5
TOTAL	101	76

*Incomplete data.

1. (a) Average Number of Graduates

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Business and Management	35	21	11	13	18	19.6	7.0	280.0%	**10**
College Totals	214	170	151	209	213	191.4	Percent of College Totals	10.2%	**3**

SOURCE: *VCCS Graduate Booklets*, Table 5B.

1. (b) Average Number of FTE Majors

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Business and Management	115.8	105.1	93.1	80.8	82.9	95.5	17.5	545.9%	**10**
College Totals	1934.7	1987.9	2034.8	2003.5	1871.2	1966.4	Percent of College Totals	4.9%	**3**

SOURCE: VCCS SIS database. The average FTE major was calculated by adding the summer, fall, and spring term credit hours and then dividing by 30.

1. (c) Ratio SCH/FTEF (Student Credit Hours / Full-Time Equivalent Faculty)

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average– 1989-90 through 1993-94	Percent of College Total	Review Points Earned
	Business and Management							
Student Credit Hours	9,473.00	8,171.00	7,124.00	6,276.00	6,151.00	7,439.00		
FTEF	19.28	16.54	14.39	12.59	12.32	15.02		
Ratio	491.34	494.01	495.07	498.49	499.27	495.64	94.7%	5
	College Totals							
Student Credit Hours	58,041.00	59,637.00	61,046.00	60,108.00	58,938.00	59,554.00		
FTEF	111.29	113.96	116.05	115.22	112.39	113.78		
Ratio	521.53	523.32	526.03	521.68	524.41	523.39	100%	

SOURCE: VCCS PAS (Productivity Analysis System) 500 Report (by discipline).

2. (a) Assessment Results

The college conducts thorough and regular assessment of all instructional programs. Each program is reviewed periodically on a regular schedule, and results are used to improve instruction.

Program graduates are assessed annually by a graduation rehearsal survey, administered to students the day before graduation; a graduate follow-up survey, conducted approximately six months after graduation; a transfer survey of students transferring to senior institutions of higher education; an employer survey, conducted approximately one year after graduation; and on a rotating basis, one of three standardized tests (Watson-Glaser Critical Thinking Appraisal; Student Satisfaction Survey; or the Academic Profile).

Additionally, an extensive review is conducted for each instructional program at least every five years. The review includes analysis of program goals and objectives; enrollment trends (both headcount and FTES); number of graduates; skills and knowledge of program completers; student satisfaction with education and training received; adequacy and availability of counseling and advising; course availability; placement of graduates; employer satisfaction with graduates; current and predicted employment opportunities; transfer rates to senior institutions; qualifications and achievements of program faculty; primary teaching methods; student outcomes; the curriculum; and other non-quantifiable factors.

The program in Business and Management was last formally reviewed, based on the five-year cycle, in 1991-92. As a result of this review, the following changes have occurred:

Assessment Finding:

Source of Finding:

Resulting Changes:

Assessment Finding:

Source of Finding:

Resulting Changes:

Review Points Earned:

2. (b) Graduates' Satisfaction

	with respect to employment	*with respect to college transfer*	*Total (5-Yr. Average)*	*Percent of Total*	*Review Points*
	Satisfaction with Academic Program (Course Availability)				
Satisfied Graduates	30	3	33	84.6%	5
Unsatisfied Graduates	6	0	6	15.4%	
	Satisfaction with Support Services				
Satisfied Graduates	19	3	22	78.6%	5
Unsatisfied Graduates	6	0	6	21.4%	
	Satisfaction with PVCC Education				
Satisfied Graduates	50	12	62	96.9%	5
Unsatisfied Graduates	1	1	2	3.1%	
	TOTALS				
Satisfied Graduates			117	89.3%	**15**
Unsatisfied Graduates			14	10.7%	

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (c) Percent of Graduates Employed in Program-Related Work, Pursuing Further Study, or Who Have Identified the Program as Significantly Contributing to their Functioning as Workers and Citizens

Graduate Respondents Employed in Program-Related Fields	Graduate Respondents Pursuing Further Education	Total Graduate Respondents Meeting Criteria	Total Graduate Respondents	Percentage of Total Respondents Meeting Criteria	Review Points Earned
29	13	42	60	70.0%	**5**

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (d) Licensure Examination Results

Not applicable.

3. (a) Total Direct Program Costs ÷ Student Credit Hours

	Personal Services	Other Direct Costs	Total 1994-95 Expenses	Student Credit Hours (1994-95)	Ratio (Cost/SCH)	Percent of Program Ratio to College Ratio	Review Points Earned
Business and Management	$ 175,951.43	$ 2,213.65	$ 178,165.08	5,659	$ 31.48	18.3%	**30**
College Totals			$ 9,642,686.00	56,033	$ 172.09		

SOURCE: VCCS SIS database. The methodology used to calculate cost was to combine program personal services costs with other direct program costs, determine the ratio of cost to student credit hours and compare that with the ratio of college costs to college student credit hours. Personal services include salaries and benefits but remove release time assignments. Other direct costs include such items as supplies and travel.

3. (b) External Funding

At present, PVCC's Business and Management program does not generate funds from external sources.

Review Points Earned: **0**

4. Length of the Program

Type of Program	Length (in credits)	SCHEV criteria (in credits)	Review Points Earned
A.A.S.	68	65	-5

5. Provost's Statement About the Program and Its Future

The college's program in Mechanical Technology, which awards the Associate of Applied Science degree, and has a major in Computer-Aided Drafting and Design, supports one of the key elements of modern manufacturing. All industries, regardless of their size, must use a design process to produce drawings from which their products can be manufactured.

With the guidance of a local advisory committee, the college has begun to remodel the curriculum of Mechanical Technology to better mirror employment needs of businesses and industries in the college's service region. These changes reflect the shift from manual to computer-aided drafting and design. Employee familiarity with and competence in CAD (computer-aided design) software are critical needs of local employers.

As part of this curricular revision, an architectural specialization has been added to the curriculum. We envision adding additional specializations in robotics and in computer-aided manufacturing (CAM). A grant proposal to the National Science Foundation is currently being prepared and will be submitted this summer.

The college is working closely with local high schools to develop a Tech-Prep agreement that will boost enrollment in the Mechanical Technology program. The college already has articulation agreements with a number of local high schools and teaches CAD to high school students in its laboratories.

In addition to addressing the needs of students desiring a degree in drafting and design, courses in Mechanical Technology provide professional development opportunities for local architects, engineers, and draftspersons in the college's service region. Because the area of computer-aided design is changing rapidly, these local workers must upgrade their job skills periodically. This training is available nowhere else in the service region, and in this respect, meets a very important local workforce training need.

The enrollment of program-placed students increased substantially between 1993-94 and 1994-95, increasing in FTES from 8 to 15. We believe this is a direct result of the curricular revisions which have occurred during the past two years, and we are confident that enrollment in Mechanical Technology will continue to increase.

Piedmont Virginia Community College
Academic Program Productivity Review

Business and Office (Associate in Applied Science)

PROGRAM REVIEW INDEX		
1. **Five-Year averages and FTES/FTEF**	Top Possible Score	Program Score
a. Average number of graduates	10	5
1. % of the institutional graduates (possible addition)	3	0
b. Average number of FTE majors	10	10
1. % of the total institutional FTE enrollment (possible addition)	3	0
c. Ratio SCH/FTEF	10	5
2. **Results**		
a. Assessment results -- measures of learning	15	15
b. Graduates' satisfaction	15	15
c. % of graduates who (i) are employed in program-related work; (ii) are pursuing further study; or (iii) identify the program as significantly contributing to their functioning as workers and citizens	10	10
d. Of graduates who take the licensure exam, the percentage who fail compared to the national average in that field (possible reduction)	-5	N/A
3. **Program costs and resources**		
a. Total direct program costs / annual SCH	30	30
b. Outside revenues, by kind (possible addition)	5	0
4. **Length of program (possible reduction)**	-5	-5
TOTAL	101	85

1. (a) Average Number of Graduates

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993 94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Office Systems Technology	3	3	2	5	5	3.6	7.0	51.4%	5
College Totals	214	170	151	209	213	191.4	Percent of College Totals	1.9%	0

SOURCE: *VCCS Graduate Booklets*, Table 5B.

1. (b) Average Number of FTE Majors

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993 94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Office Systems Technology	27.6	34.3	36.9	33.1	37.3	33.8	17.5	193.4%	10
College Totals	1934.7	1987.9	2034.8	2003.5	1871.2	1966.4	Percent of College Totals	1.7%	0

SOURCE: VCCS SIS database. The average FTE major was calculated by adding the summer, fall, and spring term credit hours and then dividing by 30.

1. (c) Ratio SCH/FTEF (Student Credit Hours / Full-Time Equivalent Faculty)

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	Percent of College Total	Review Points Earned
	Office Systems Technology							
Student Credit Hours	1,274.00	1,327.00	1,273.00	1,158.00	1,268.00	1,260.00		
FTEF	2.66	2.76	2.65	2.41	2.64	2.62		
Ratio	478.95	480.80	480.38	480.50	480.30	480.18	91.7%	5
	College Totals							
Student Credit Hours	58,041.00	59,637.00	61,046.00	60,108.00	58,938.00	59,554.00		
FTEF	111.29	113.96	116.05	115.22	112.39	113.78		
Ratio	521.53	523.32	526.03	521.68	524.41	523.39	100%	

SOURCE: VCCS PAS (Productivity Analysis System) 500 Report (by discipline).

2. (a) Assessment Results

The college conducts thorough and regular assessment of all instructional programs. Each program is reviewed periodically on a regular schedule, and results are used to improve instruction.

Program graduates are assessed annually by a graduation rehearsal survey, administered to students the day before graduation; a graduate follow-up survey, conducted approximately six months after graduation; a transfer survey of students transferring to senior institutions of higher education; an employer survey, conducted approximately one year after graduation; and on a rotating basis, one of three standardized tests (Watson-Glaser Critical Thinking Appraisal; Student Satisfaction Survey; or the Academic Profile).

Additionally, an extensive review is conducted for each instructional program at least every five years. The review includes analysis of program goals and objectives; enrollment trends (both headcount and FTES); number of graduates; skills and knowledge of program completers; student satisfaction with education and training received; adequacy and availability of counseling and advising; course availability; placement of graduates; employer satisfaction with graduates; current and predicted employment opportunities; transfer rates to senior institutions; qualifications and achievements of program faculty; primary teaching methods; student outcomes; the curriculum; and other non-quantifiable factors.

The program in Business and Office was last formally reviewed, based on the five-year cycle, in 1991-92. As a result of this review, the following changes have occurred:

Assessment Finding: Outdated equipment.

Source of Finding: Student exit interviews; Graduate Follow-Up Survey; Employer Survey; input from local advisory board.

Resulting Changes:

(1) The Business and Office program's lab was dismantled and obsolete equipment removed. Now, Business and Office and Computing Information Systems programs are being served by a newly constructed academic computing lab housing state-of-the-art equipment and software.

Assessment Finding: The need for a desktop publishing course.

Source of Finding: Student exit interviews; Graduate Follow-Up Survey; Employer Survey.

Resulting Changes:

(1) A desktop publishing course was developed and is being offered on a periodic basis.

Assessment Finding: Low number of program graduates; a number of students obtain employment or transfer to four-year colleges and universities before obtaining a degree at PVCC.

Source of Finding: Non-Completer Survey; student exit interviews.

Resulting Changes:

(1) Articulation agreements between PVCC and four local secondary schools were developed.

(2) An accelerated "Tech-Prep" track in the curriculum was developed and implemented.

(3) An additional curricular specialization in medical and dental office management was developed and approved by the College Board in January 1996. This specialization will be implemented in Fall Semester 1996.

Review Points Earned: **15**

2. (b) Graduates' Satisfaction

	with respect to employment	with respect to college transfer	Total (5-Yr. Average)	Percent of Total	Review Points
	Satisfaction with Academic Program (Course Availability)				
Satisfied Graduates	4	0	4	100.0%	5
Unsatisfied Graduates	0	0	0	0.0%	
	Satisfaction with Support Services				
Satisfied Graduates	11	0	11	91.7%	5
Unsatisfied Graduates	1	0	1	8.3%	
	Satisfaction with PVCC Education				
Satisfied Graduates	N/A	N/A	10	100.0%	5
Unsatisfied Graduates	N/A	N/A	0	0.0%	
	TOTALS				
Satisfied Graduates			25	96.2%	**15**
Unsatisfied Graduates			1	3.8%	

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (c) Percent of Graduates Employed in Program-Related Work, Pursuing Further Study, or Who Have Identified the Program as Significantly Contributing to their Functioning as Workers and Citizens

Graduate Respondents Employed in Program-Related Fields	Graduate Respondents Pursuing Further Education	Total Graduate Respondents Meeting Criteria	Total Graduate Respondents	Percentage of Total Respondents Meeting Criteria	Review Points Earned
7	2	9	10	90.0%	**10**

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (d) Licensure Examination Results

Not applicable.

3. (a) Total Direct Program Costs ÷ Student Credit Hours

	Personal Services	Other Direct Costs	Total 1994-95 Expenses	Student Credit Hours (1994-95)	Ratio (Cost/SCH)	Percent of Program Ratio to College Ratio	Review Points Earned
Office Systems Technology	$ 70,793.00	$ 5,711.00	$ 76,504.00	1,027	$ 74.49	43.3%	30
College Totals			$ 9,642,686.00	56,033	$ 172.09		

SOURCE: VCCS SIS database. The methodology used to calculate cost was to combine program personal services costs with other direct program costs, determine the ratio of cost to student credit hours and compare that with the ratio of college costs to college student credit hours. Personal services include salaries and benefits but remove release time assignments. Other direct costs include such items as supplies and travel.

3. (b) External Funding

At present, PVCC's Business and Office program does not generate revenue from external sources.

Review Points Earned: **0**

4. Length of the Program

Type of Program	Length (in credits)	SCHEV criteria (in credits)	Review Points Earned
A.A.S.	66	65	-5

5. Provost's Statement About the Program and Its Future

The college's program in Business and Office, which awards the Associate in Applied Science degree meets a critical employment need of the local economy. Unlike other areas of the state, central Virginia's economy is based primarily upon service and government jobs. Few manufacturing plants are located in Central Virginia, and the region's single largest employer is the University of Virginia. Such an economy depends to a great extent upon skilled office workers; and PVCC is positioned to meet this need.

Because central Virginia increasingly has become a major medical provider for the state, the demand for medical and dental office workers has grown. To meet this need, the college has developed a specialization in Medical and Dental Office Management which was approved by the College Board in January 1996 and which will be offered next fall.

In order to maintain adequate class enrollments and program productivity, Business and Office faculty have adopted an individualized method of instruction which enables multiple required courses to be taught simultaneously and within a single class section. Two years ago, the Business and Office lab and nearly all of its equipment were replaced by a generic computing lab. This has resulted in a substantial decrease in program costs. Also noteworthy is the fact that the college's recent articulation work with area high schools as been heavily concentrated in this curricular area. Perhaps the single greatest achievement of this work was the development of a Business and Office "Tech-Prep" program.

In the past few years, technology has changed the entire nature of office work. Aware of this change, the college has increasingly incorporated technology into its Business and Office program. As an example of how the program has incorporated technology into its curriculum, spring semester 1996 classes include *Introduction to Personal Computers, Windows 3.11, Windows 95 (for beginning Windows Users), Microsoft Word 6.0, Microsoft Works, Microsoft Office, WordPerfect for DOS, WordPerfect for Windows, Lotus 123 for Windows, Access,* and *Powerpoint.*

Due to the increasingly technological nature of office work, and due to the growing need in the college's service region, we feel confident that the Business and Office program at PVCC will continue to meet a vital regional need and will slowly grow in size.

Piedmont Virginia Community College
Academic Program Productivity Review
(Revised, 16-Apr-1996)

Computer Information Systems (Associate in Applied Science)

PROGRAM REVIEW INDEX		
1. **Five-Year averages and FTES/FTEF**	Top Possible Score	Program Score
a. Average number of graduates	10	10
1. % of the institutional graduates (possible addition)	3	3
b. Average number of FTE majors	10	10
1. % of the total institutional FTE enrollment (possible addition)	3	3
c. Ratio SCH/FTEF	10	5
2. **Results**		
a. Assessment results -- measures of learning	15	15*
b. Graduates' satisfaction	15	12
c. % of graduates who (i) are employed in program-related work; (ii) are pursuing further study; or (iii) identify the program as significantly contributing to their functioning as workers and citizens	10	5
d. Of graduates who take the licensure exam, the percentage who fail compared to the national average in that field (possible reduction)	-5	N/A
3. **Program costs and resources**		
a. Total direct program costs / annual SCH	30	30
b. Outside revenues, by kind (possible addition)	5	N/A
4. **Length of program (possible reduction)**	-5	-5
TOTAL	101	73

*Incomplete Data.

1. (a) Average Number of Graduates

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Yeer Average--1989-90 through 1993-94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Computer Info. Systems	10	7	8	8	9	8.4	7.0	120.0%	**10**
College Totals	214	170	151	209	213	191.4	Percent of College Totals	4.4%	**3**

SOURCE: *VCCS Graduate Booklets*, Table 5B.

1. (b) Average Number of FTE Majors

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Computer Info. Systems	53.6	59.7	54.7	54.5	69.5	58.4	17.5	333.7%	**10**
College Totals	1934.7	1987.9	2034.8	2003.5	1871.2	1966.4	Percent of College Totals	3.0%	**3**

SOURCE: VCCS SIS database. The average FTE major was calculated by adding the summer, fall, and spring term credit hours and then dividing by 30.

1. (c) Ratio SCH/FTEF (Student Credit Hours / Full-Time Equivalent Faculty)

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	Percent of College Total	Review Points Earned
	Computer Info. Systems							
Student Credit Hours	4,567.00	4,547.00	4,713.00	4,455.00	4,587.00	4,573.80		
FTEF	9.51	9.47	9.82	9.28	9.56	9.53		
Ratio	480.23	480.15	479.94	480.06	479.81	480.04	91.7%	**5**
	College Totals							
Student Credit Hours	58,041.00	59,637.00	61,046.00	60,108.00	58,938.00	59,554.00		
FTEF	111.29	113.96	116.05	115.22	112.39	113.78		
Ratio	521.53	523.32	526.03	521.68	524.41	523.39	100%	

SOURCE: VCCS PAS (Productivity Analysis System) 500 Report (by discipline).

2. (a) Assessment Results

The college conducts thorough and regular assessment of all instructional programs. Each program is reviewed periodically on a regular schedule, and results are used to improve instruction.

Program graduates are assessed annually by a graduation rehearsal survey, administered to students the day before graduation; a graduate follow-up survey, conducted approximately six months after graduation; a transfer survey of students transferring to senior institutions of higher education; an employer survey, conducted approximately one year after graduation; and on a rotating basis, one of three standardized tests (Watson-Glaser Critical Thinking Appraisal; Student Satisfaction Survey; or the Academic Profile).

Additionally, an extensive review is conducted for each instructional program at least every five years. The review includes analysis of program goals and objectives; enrollment trends (both headcount and FTES); number of graduates; skills and knowledge of program completers; student satisfaction with education and training received; adequacy and availability of counseling and advising; course availability; placement of graduates; employer satisfaction with graduates; current and predicted employment opportunities; transfer rates to senior institutions; qualifications and achievements of program faculty; primary teaching methods; student outcomes; the curriculum; and other non-quantifiable factors.

The program in Computer Information Systems was last formally reviewed, based on the five-year cycle, in 1991-92. As a result of this review, the following changes have occurred:

Assessment Finding:

Source of Finding:

Resulting Changes:

Assessment Finding:

Source of Finding:

Resulting Changes:

Review Points Earned:

2. (b) Graduates' Satisfaction

	with respect to employment	with respect to college transfer	Total (5-Yr. Average)	Percent of Total	Review Points
	Satisfaction with Academic Program (Course Availability)				
Satisfied Graduates	4	1	5	62.5%	2
Unsatisfied Graduates	3	0	3	37.5%	
	Satisfaction with Support Services				
Satisfied Graduates	3	1	4	80.0%	5
Unsatisfied Graduates	1	0	1	20.0%	
	Satisfaction with PVCC Education				
Satisfied Graduates	7	2	9	75.0%	5
Unsatisfied Graduates	3	0	3	25.0%	
	TOTALS				
Satisfied Graduates			18	72.0%	**12**
Unsatisfied Graduates			7	28.0%	

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (c) Percent of Graduates Employed in Program-Related Work, Pursuing Further Study, or Who Have Identified the Program as Significantly Contributing to their Functioning as Workers and Citizens

Graduate Respondents Employed in Program-Related Fields	Graduate Respondents Pursuing Further Education	Total Graduate Respondents Meeting Criteria	Total Graduate Respondents	Percentage of Total Respondents Meeting Criteria	Review Points Earned
29	13	42	60	70.0%	**5**

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (d) Licensure Examination Results

Not applicable.

3. (a) Total Direct Program Costs ÷ Student Credit Hours

	Personal Services	Other Direct Costs	Total 1994-95 Expenses	Student Credit Hours (1994-95)	Ratio (Cost/SCH)	Percent of Program Ratio to College Ratio	Review Points Earned
Computer Info. Systems	$ 8,017.67	$ 3,920.11	$ 11,937.78	4,667	$ 2.56	1.5%	**30**
College Totals			$ 9,642,686.00	56,033	$ 172.09		

SOURCE: VCCS SIS database. The methodology used to calculate cost was to combine program personal services costs with other direct program costs, determine the ratio of cost to student credit hours and compare that with the ratio of college costs to college student credit hours. Personal services include salaries and benefits but remove release time assignments. Other direct costs include such items as supplies and travel.

3. (b) External Funding

At present, PVCC's Computer Information Systems program does not generate revenue from external sources.

Review Points Earned: **0**

4. **Length of the Program**

A.A.S.	70	65	-5

5. **Provost's Statement About the Program and Its Future**

Piedmont Virginia Community College
Academic Program Productivity Review

Electrical/Electronics Technology (Associate in Applied Science)

PROGRAM REVIEW INDEX		
1. **Five-Year averages and FTES/FTEF**	Top Possible Score	Program Score
a. Average number of graduates	10	0
1. % of the institutional graduates (possible addition)	3	0
b. Average number of FTE majors	10	10
1. % of the total institutional FTE enrollment (possible addition)	3	0
c. Ratio SCH/FTEF	10	5
2. **Results**		
a. Assessment results – measures of learning	15	15
b. Graduates' satisfaction	15	15
c. % of graduates who (i) are employed in program-related work; (ii) are pursuing further study; or (iii) identify the program as significantly contributing to their functioning as workers and citizens	10	5
d. Of graduates who take the licensure exam, the percentage who fail compared to the national average in that field (possible reduction)	-5	N/A
3. **Program costs and resources**		
a. Total direct program costs / annual SCH	30	20
b. Outside revenues, by kind (possible addition)	5	0
4. **Length of program (possible reduction)**	-5	-5
TOTAL	101	65

1. (a) Average Number of Graduates

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993 94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Electronics Technology	2	4	1	3	1	2.2	7.0	31.4%	0
College Totals	214	170	151	209	213	191.4	Percent of College Totals	1.1%	0

SOURCE: *VCCS Graduate Booklets*, Table 5B.

1. (b) Average Number of FTE Majors

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993 94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Electronics Technology	25.3	24.6	27.5	30.8	27.1	27.1	17.5	154.7%	10
College Totals	1934.7	1987.9	2034.8	2003.5	1871.2	1966.4	Percent of College Totals	1.4%	0

SOURCE: VCCS SIS database. The average FTE major was calculated by adding the summer, fall, and spring term credit hours and then dividing by 30.

1. (c) Ratio SCH/FTEF (Student Credit Hours / Full-Time Equivalent Faculty)

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	Percent of College Total	Review Points Earned
	Electronics Technology							
Student Credit Hours	491.00	423.00	376.00	515.00	551.00	471.20		
FTEF	1.37	1.17	1.04	1.43	1.53	1.31		
Ratio	358.39	361.54	361.54	360.14	360.13	360.35	68.8%	5
	College Totals							
Student Credit Hours	58,041.00	59,637.00	61,046.00	60,108.00	58,938.00	59,554.00		
FTEF	111.29	113.96	116.05	115.22	112.39	113.78		
Ratio	521.53	523.32	526.03	521.68	524.41	523.39	100%	

SOURCE: VCCS PAS (Productivity Analysis System) 500 Report (by discipline).

2. (a) Assessment Results

The college conducts thorough and regular assessment of all instructional programs. Each program is reviewed periodically on a regular schedule, and results are used to improve instruction.

Program graduates are assessed annually by a graduation rehearsal survey, administered to students the day before graduation; a graduate follow-up survey, conducted approximately six months after graduation; a transfer survey of students transferring to senior institutions of higher education; an employer survey, conducted approximately one year after graduation; and on a rotating basis, one of three standardized tests (Watson-Glaser Critical Thinking Appraisal; Student Satisfaction Survey; or the Academic Profile).

Additionally, an extensive review is conducted for each instructional program at least every five years. The review includes analysis of program goals and objectives; enrollment trends (both headcount and FTES); number of graduates; skills and knowledge of program completers; student satisfaction with education and training received; adequacy and availability of counseling and advising; course availability; placement of graduates; employer satisfaction with graduates; current and predicted employment opportunities; transfer rates to senior institutions; qualifications and achievements of program faculty; primary teaching methods; student outcomes; the curriculum; and other non-quantifiable factors.

The program in Electrical/Electronics Technology was last formally reviewed, based on the five-year cycle, in 1992-94. As a result of this review, the following changes have occurred:

Assessment Finding: Low enrollment; low number of program graduates; many "successful non-completers."

Source of Finding: SIS database; Non-Completer Survey; Employer Survey.

Resulting Changes:

(1) The head of the Electronics program began making presentations about the program to workers at local businesses.

(2) Articulation agreements with Old Dominion University and several PVCC service-region high schools (Buckingham, Louisa, Charlottesville-Albemarle Technical Education Center) were developed.

(3) PVCC began offering a baccalaureate degree program in Engineering Technologies on campus through Old Dominion University's Teletechnet initiative.

(4) PVCC initiated business/industry course offerings at one of the region's major companies, Comdial Corporation. Generally, one course each semester is taught at Comdial.

(5) New credit courses, such as Personal Computer Repair and Introduction to Assembly Line Programming, were developed, scheduled, and taught.

(6) Faculty advising for all program-placed students was implemented. It served as a model for the college-wide advising system that was subsequently implemented in Spring Semester 1996.

(7) A National Science Foundation grant proposal to fund a "Summer Institute of Technology" camp for high school students was developed. The proposal will be submitted in June 1996.

(8) The length of the Electronics program was reduced from 73 to 69 credits.

Assessment Finding: Lack of knowledge about curriculum among local employers.

Source of Finding: Input from local advisory board; interviews of local employers in 1993.

Resulting Changes:

(1) The head of the Electronics program established a schedule for visiting local employers on a quarterly basis.

(2) Membership of the Electronics program's Advisory Board was broadened.

Assessment Finding: Outdated equipment.

Source of Finding: Student exit interviews; Graduate Survey; input from Advisory Board.

Resulting Changes:

(1) Since 1994, PVCC purchased $39,135 in new equipment for the Electronics program.

Assessment Finding: Need for curricular revision to reflect needs of students and of the current workplace.

Source of Finding: Graduate Survey; Employer Survey; input from Advisory Board.

Resulting Changes:

(1) A communications systems course, Electronic Communications I (ETR 241), was added to the Electronics-program curriculum.

(2) An introductory level course, Electronics I (ETR 141), was developed to enhance student success in the Electronics curriculum.

(3) Two courses, DC/AC Fundamentals II (ETR 114) and Technical Physics I (PHY 111), were included in the Electronics curriculum in order to enhance transfer to senior schools.

Review Points Earned: **15**

2. (b) **Graduates' Satisfaction**

	with respect to employment	with respect to college transfer	Total (5-Yr. Average)	Percent of Total	Review Points
	Satisfaction with Academic Program (Course Availability)				
Satisfied Graduates	6	0	6	100.0%	5
Unsatisfied Graduates	0	0	0	0.0%	
	Satisfaction with Support Services				
Satisfied Graduates	11	0	11	91.7%	5
Unsatisfied Graduates	1	0	1	8.3%	
	Satisfaction with PVCC Education				
Satisfied Graduates	N/A	N/A	6	85.7%	5
Unsatisfied Graduates	N/A	N/A	1	14.3%	
	TOTALS				
Satisfied Graduates			23	92.0%	**15**
Unsatisfied Graduates			2	8.0%	

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (c) **Percent of Graduates Employed in Program-Related Work, Pursuing Further Study, or Who Have Identified the Program as Significantly Contributing to their Functioning as Workers and Citizens**

Graduate Respondents Employed in Program-Related Fields	Graduate Respondents Pursuing Further Education	Total Graduate Respondents Meeting Criteria	Total Graduate Respondents	Percentage of Total Respondents Meeting Criteria	Review Points Earned
5	0	5	7	71.4%	**5**

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (d) **Licensure Examination Results**

Not applicable.

3. (a) Total Direct Program Costs ÷ Student Credit Hours

	Personal Services	Other Direct Costs	Total 1994-95 Expenses	Student Credit Hours (1994-95)	Ratio (Cost/SCH)	Percent of Program Ratio to College Ratio	Review Points Earned
Electronics Technology	$ 61,865.00	$ 18,150.00	$ 80,015.00	650	$ 123.10	71.5%	20
College Totals			$ 9,642,686.00	56,033	$ 172.09		

SOURCE: VCCS SIS database. The methodology used to calculate cost was to combine program personal services costs with other direct program costs, determine the ratio of cost to student credit hours and compare that with the ratio of college costs to college student credit hours. Personal services include salaries and benefits but remove release time assignments. Other direct costs include such items as supplies and travel.

3. (b) External Funding

At present, PVCC's Electrical/Electronics Technology program does not generate revenue from external sources.

Review Points Earned: **0**

4. Length of the Program

Type of Program	Length (in credits)	SCHEV criteria (in credits)	Review Points Earned
A.A.S.	73	65	-5

5. Provost's Statement About the Program and Its Future

There is a substantial electronics and electronics-related industry base in the PVCC service region. Most of these companies have representatives on the Electronics advisory committee and so are able to effectively communicate local workforce needs. Since his hiring three years ago, the program head has actively involved these companies in recruiting students, developing cooperative education experiences, and forming partnerships. These efforts in turn have resulted in a steady increase over the past two years of program-placed students. Additionally, the influx of electronics businesses into the service region has increased employment opportunities for students.

Many local employers do not preferentially hire program graduates, and this practice increases the number of electronics students who find employment before graduating from the program. The program head continues to lead discussion of this issue with local businesses.

Articulation agreements developed with several local high schools in 1995-96 should increase both enrollment and program graduates. The program head will continue to develop articulation agreements with other schools in the PVCC service region.

Students in the program also have the opportunity to continue their education through the Teletechnet program offered by Old Dominion University. The articulation agreement with ODU should enhance the number of program graduates; it also provides a career ladder for electronics technicians employed by local businesses.

Piedmont Virginia Community College
Academic Program Productivity Review

Mechanical Technology (Associate in Applied Science)

PROGRAM REVIEW INDEX		
1. **Five-Year averages and FTES/FTEF**	Top Possible Score	Program Score
a. Average number of graduates	10	0
1. % of the institutional graduates (possible addition)	3	0
b. Average number of FTE majors	10	5
1. % of the total institutional FTE enrollment (possible addition)	3	0
c. Ratio SCH/FTEF	10	5
2. **Results**		
a. Assessment results -- measures of learning	15	15
b. Graduates' satisfaction	15	12
c. % of graduates who (i) are employed in program-related work; (ii) are pursuing further study; or (iii) identify the program as significantly contributing to their functioning as workers and citizens	10	10
d. Of graduates who take the licensure exam, the percentage who fail compared to the national average in that field (possible reduction)	-5	N/A
3. **Program costs and resources**		
a. Total direct program costs / annual SCH	30	30
b. Outside revenues, by kind (possible addition)	5	5
4. **Length of program (possible reduction)**	-5	-5
TOTAL	101	77

1. (a) Average Number of Graduates

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993 94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Mechanical Technology	8	1	0	1	1	2.2	7.0	31.4%	0
College Totals	214	170	151	209	213	191.4	Percent of College Totals	1.1%	0

SOURCE: *VCCS Graduate Booklets*, Table 5B.

1. (b) Average Number of FTE Majors

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993 94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Mechanical Technology	13.2	16.2	10.4	14.4	8.1	12.5	17.5	71.1%	5
College Totals	1934.7	1987.9	2034.8	2003.5	1871.2	1966.4	Percent of College Totals	0.6%	0

SOURCE: VCCS SIS database. The average FTE major was calculated by adding the summer, fall, and spring term credit hours and then dividing by 30.

1. (c) Ratio SCH/FTEF (Student Credit Hours / Full-Time Equivalent Faculty)

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	Percent of College Total	Review Points Earned
	Mechanical Technology							
Student Credit Hours	271.00	192.00	182.00	258.00	278.00	236.20		
FTEF	0.75	0.53	0.51	0.72	0.77	0.66		
Ratio	361.33	362.26	356.86	358.33	361.04	359.97	68.8%	5
	College Totals							
Student Credit Hours	58.041.00	59.637.00	61.046.00	60.108.00	58.938.00	59.554.00		
FTEF	111.29	113.96	116.05	115.22	112.39	113.78		
Ratio	521.53	523.32	526.03	521.68	524.41	523.39	100%	

SOURCE: VCCS PAS (Productivity Analysis System) 500 Report (by discipline).

2. (a) Assessment Results

The college conducts thorough and regular assessment of all instructional programs. Each program is reviewed periodically on a regular schedule, and results are used to improve instruction.

Program graduates are assessed annually by a graduation rehearsal survey, administered to students the day before graduation; a graduate follow-up survey, conducted approximately six months after graduation; a transfer survey of students transferring to senior institutions of higher education; an employer survey, conducted approximately one year after graduation; and on a rotating basis, one of three standardized tests (Watson-Glaser Critical Thinking Appraisal; Student Satisfaction Survey; or the Academic Profile).

Additionally, an extensive review is conducted for each instructional program at least every five years. The review includes analysis of program goals and objectives; enrollment trends (both headcount and FTES); number of graduates; skills and knowledge of program completers; student satisfaction with education and training received; adequacy and availability of counseling and advising; course availability; placement of graduates; employer satisfaction with graduates; current and predicted employment opportunities; transfer rates to senior institutions; qualifications and achievements of program faculty; primary teaching methods; student outcomes; the curriculum; and other non-quantifiable factors.

The program in Mechanical Technology was last formally reviewed, based on the five-year cycle, in 1991-92. As a result of this review, the following changes have occurred:

Assessment Finding: Low number of program graduates; many "successful non-completers."

Source of Finding: SIS database; Non-Completer Survey; Employer Survey; input from local advisory board.

Resulting Changes:

(1) Manual drafting courses were eliminated. Now, all drafting courses are based on computer technology.

(2) The program head visits local businesses at least quarterly to discuss training needs and to encourage hiring preferences to program graduates.

(3) Three hours of release time was given to the program head in 1995-96 to conduct recruiting activities.

(4) An architectural specialization was added to the curriculum in order to better meet local needs.

(5) A National Science Foundation grant proposal is being prepared and will be submitted in June 1996. The grant will be designed to purchase equipment and develop courses so that specializations in computer-aided manufacturing and robotics can be added to the curriculum.

(6) Five additional credit course sections and five additional business and industry training courses were scheduled in 1995-96.

(7) Articulation agreements were developed with Charlottesville High School, Albemarle High School, Western Albemarle High School, and Louisa County High School.

Assessment Finding: Outdated equipment

Source of Finding: Student exit interviews; Graduate Follow-Up Survey; Employer Survey; input from local advisory board.

Resulting Changes:

(1) An additional computer-aided drafting and design laboratory was developed. The lab contains 17 state-of-the-art computers with the latest CAD/CAM software. In addition to serving regular classes, the lab serves local businesses and industry.

(2) Software has been upgraded to AutoCad Release 13. A further upgrade to the Windows version of this software will take place in the summer of 1996. Softdesk AutoArchitect 7.1 software was also purchased for use in courses.

Review Points Earned: **15**

2. (b) Graduates' Satisfaction

	with respect to employment	*with respect to college transfer*	*Total (5-Yr. Average)*	*Percent of Total*	*Review Points*
	Satisfaction with Academic Program (Course Availability)				
Satisfied Graduates	2	0	2	66.7%	2
Unsatisfied Graduates	1	0	1	33.3%	
	Satisfaction with Support Services				
Satisfied Graduates	4	0	4	80.0%	5
Unsatisfied Graduates	1	0	1	20.0%	
	Satisfaction with PVCC Education				
Satisfied Graduates	N/A	N/A	7	77.8%	5
Unsatisfied Graduates	N/A	N/A	2	22.2%	
	TOTALS				
Satisfied Graduates			13	76.5%	**12**
Unsatisfied Graduates			4	23.5%	

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (c) Percent of Graduates Employed in Program-Related Work, Pursuing Further Study, or Who Have Identified the Program as Significantly Contributing to their Functioning as Workers and Citizens

Graduate Respondents Employed in Program-Related Fields	Graduate Respondents Pursuing Further Education	Total Graduate Respondents Meeting Criteria	Total Graduate Respondents	Percentage of Total Respondents Meeting Criteria	Review Points Earned
2	4	6	6	100.0%	10

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (d) Licensure Examination Results

Not applicable.

3. (a) Total Direct Program Costs ÷ Student Credit Hours

	Personal Services	Other Direct Costs	Total 1994-95 Expenses	Student Credit Hours (1994-95)	Ratio (Cost/SCH)	Percent of Program Ratio to College Ratio	Review Points Earned
Mechanical Technology	$ 30,840.00	$ 2,242.00	$ 33,082.00	450	$ 73.52	42.7%	30
College Totals			$ 9,642,686.00	56,033	$ 172.09		

SOURCE: VCCS SIS database. The methodology used to calculate cost was to combine program personal services costs with other direct program costs, determine the ratio of cost to student credit hours and compare that with the ratio of college costs to college student credit hours. Personal services include salaries and benefits but remove release time assignments. Other direct costs include such items as supplies and travel.

3. (b) External Funding

The college receives $14,000 annually from CATEC (Charlottesville-Albemarle Technical Education Center) to instruct high school students in drafting and CAD/CAM. The CAD/CAM lab is used for the instruction, and college personnel conduct these classes for the high school students.

Review Points Earned: **5**

4. Length of the Program

Type of Program	Length (in credits)	SCHEV criteria (in credits)	Review Points Earned
A.A.S.	69	65	-5

5. Provost's Statement About the Program and Its Future

The college's program in Mechanical Technology, which awards the Associate of Applied Science degree, and has a major in Computer-Aided Drafting and Design, supports one of the key elements of modern manufacturing. All industries, regardless of their size, must use a design process to produce drawings from which their products can be manufactured.

With the guidance of a local advisory committee, the college has begun to remodel the curriculum of Mechanical Technology to better mirror employment needs of businesses and industries in the college's service region. These changes reflect the shift from manual to computer-aided drafting and design. Employee familiarity with and competence in CAD (computer-aided design) software are critical needs of local employers.

As part of this curricular revision, an architectural specialization has been added to the curriculum. We envision adding additional specializations in robotics and in computer-aided manufacturing (CAM). A grant proposal to the National Science Foundation is currently being prepared and will be submitted this summer.

The college is working closely with local high schools to develop a Tech-Prep agreement that will boost enrollment in the Mechanical Technology program. The college already has articulation agreements with a number of local high schools and teaches CAD to high school students in its laboratories.

In addition to addressing the needs of students desiring a degree in drafting and design, courses in Mechanical Technology provide professional development opportunities for local architects, engineers, and draftspersons in the college's service region. Because the area of computer-aided design is changing rapidly, these local workers must upgrade their job skills periodically. This training is available nowhere else in the service region, and in this respect, meets a very important local workforce training need.

The enrollment of program-placed students increased substantially between 1993-94 and 1994-95, increasing in FTES from 8 to 15. We believe this is a direct result of the curricular revisions which have occurred during the past two years, and we are confident that enrollment in Mechanical Technology will continue to increase.

Piedmont Virginia Community College
Academic Program Productivity Review
(Revised 16-Apr-1996)

Nursing (Associate in Applied Science)

PROGRAM REVIEW INDEX		
1. **Five-Year averages and FTES/FTEF**	Top Possible Score	Program Score
a. Average number of graduates	10	10
1. % of the institutional graduates (possible addition)	3	3
b. Average number of FTE majors	10	10
1. % of the total institutional FTE enrollment (possible addition)	3	3
c. Ratio SCH/FTEF	10	5
2. **Results**		
a. Assessment results – measures of learning	15	15*
b. Graduates' satisfaction	15	12
c. % of graduates who (i) are employed in program-related work; (ii) are pursuing further study; or (iii) identify the program as significantly contributing to their functioning as workers and citizens	10	10
d. Of graduates who take the licensure exam, the percentage who fail compared to the national average in that field (possible reduction)	-5	N/A
3. **Program costs and resources**		
a. Total direct program costs / annual SCH	30	20
b. Outside revenues, by kind (possible addition)	5	*
4. **Length of program (possible reduction)**	-5	-5
TOTAL	101	68

*Incomplete data.

1. (a) Average Number of Graduates

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Nursing	35	38	36	47	50	41.2	7.0	588.6%	**10**
College Totals	214	170	151	209	213	191.4	Percent of College Totals	21.5%	**3**

SOURCE: *VCCS Graduate Booklets*, Table 5B.

1. (b) Average Number of FTE Majors

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Nursing	82.3	86.0	87.6	90.3	83.4	85.9	17.5	491.0%	**10**
College Totals	1934.7	1987.9	2034.8	2003.5	1871.2	1966.4	Percent of College Totals	4.4%	**3**

SOURCE: VCCS SIS database. The average FTE major was calculated by adding the summer, fall, and spring term credit hours and then dividing by 30.

1. (c) Ratio SCH/FTEF (Student Credit Hours / Full-Time Equivalent Faculty)

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	Percent of College Total	Review Points Earned
	Nursing							
Student Credit Hours	1,743.00	1,798.00	1,863.00	2,427.00	2,204.00	2,007.00		
FTEF	5.81	5.99	6.21	8.09	7.35	6.69		
Ratio	300.00	300.17	300.00	300.00	299.86	300.01	57.3%	5
	College Totals							
Student Credit Hours	58,041.00	59,637.00	61,046.00	60,108.00	58,938.00	59,554.00		
FTEF	111.29	113.96	116.05	115.22	112.39	113.78		
Ratio	521.53	523.32	526.03	521.68	524.41	523.39	100%	

SOURCE: VCCS PAS (Productivity Analysis System) 500 Report (by discipline).

2. (a) Assessment Results

The college conducts thorough and regular assessment of all instructional programs. Each program is reviewed periodically on a regular schedule, and results are used to improve instruction.

Program graduates are assessed annually by a graduation rehearsal survey, administered to students the day before graduation; a graduate follow-up survey, conducted approximately six months after graduation; a transfer survey of students transferring to senior institutions of higher education; an employer survey, conducted approximately one year after graduation; and on a rotating basis, one of three standardized tests (Watson-Glaser Critical Thinking Appraisal; Student Satisfaction Survey; or the Academic Profile).

Additionally, an extensive review is conducted for each instructional program at least every five years. The review includes analysis of program goals and objectives; enrollment trends (both headcount and FTES); number of graduates; skills and knowledge of program completers; student satisfaction with education and training received; adequacy and availability of counseling and advising; course availability; placement of graduates; employer satisfaction with graduates; current and predicted employment opportunities; transfer rates to senior institutions; qualifications and achievements of program faculty; primary teaching methods; student outcomes; the curriculum; and other non-quantifiable factors.

The program in Nursing was last formally reviewed, based on the five-year cycle, in 1991-92. As a result of this review, the following changes have occurred:

Assessment Finding:

Source of Finding:

Resulting Changes:

Assessment Finding:

Source of Finding:

Resulting Changes:

Review Points Earned:

2. (b) Graduates' Satisfaction

	with respect to employment	with respect to college transfer	Total (5-Yr. Average)	Percent of Total	Review Points
	Satisfaction with Academic Program (Course Availability)				
Satisfied Graduates	67	1	68	90.7%	5
Unsatisfied Graduates	7	0	7	9.3%	
	Satisfaction with Support Services				
Satisfied Graduates	37	0	37	72.5%	2
Unsatisfied Graduates	14	0	14	27.5%	
	Satisfaction with PVCC Education				
Satisfied Graduates	105	8	113	95.8%	5
Unsatisfied Graduates	5	0	5	4.2%	
	TOTALS				
Satisfied Graduates			218	89.3%	**12**
Unsatisfied Graduates			26	10.7%	

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (c) Percent of Graduates Employed in Program-Related Work, Pursuing Further Study, or Who Have Identified the Program as Significantly Contributing to their Functioning as Workers and Citizens

Graduate Respondents Employed in Program-Related Fields	Graduate Respondents Pursuing Further Education	Total Graduate Respondents Meeting Criteria	Total Graduate Respondents	Percentage of Total Respondents Meeting Criteria	Review Points Earned
96	8	104	111	93.7%	**10**

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (d) Licensure Examination Results

Not applicable.

3. (a) Total Direct Program Costs ÷ Student Credit Hours

	Personal Services	Other Direct Costs	Total 1994-95 Expenses	Student Credit Hours (1994-95)	Ratio (Cost/SCH)	Percent of Program Ratio to College Ratio	Review Points Earned
Nursing	$ 324,526.89	$ 7,199.48	$ 331,726.37	2,240	$ 148.09	86.1%	**20**
College Totals			$ 9,642,686.00	56,033	$ 172.09		

SOURCE: VCCS SIS database. The methodology used to calculate cost was to combine program personal services costs with other direct program costs, determine the ratio of cost to student credit hours and compare that with the ratio of college costs to college student credit hours. Personal services include salaries and benefits but remove release time assignments. Other direct costs include such items as supplies and travel.

3. (b) External Funding

This program receives $50,000 in external funding from UVa for support of the Nursing Program.

Review Points Earned:

4. **Length of the Program**

Type of Program	*Length (in credits)*	*SCHEV criteria (in credits)*	*Review Points Earned*
A.A.S.	67	65	**-5**

5. **Provost's Statement About the Program and Its Future**

Piedmont Virginia Community College
Academic Program Productivity Review
(Revised 16-Apr-1996)

Protective Services (Associate in Applied Science)

PROGRAM REVIEW INDEX		
1. **Five-Year averages and FTES/FTEF**	Top Possible Score	Program Score
a. Average number of graduates	10	10
1. % of the institutional graduates (possible addition)	3	3
b. Average number of FTE majors	10	10
1. % of the total institutional FTE enrollment (possible addition)	3	0
c. Ratio SCH/FTEF	10	5
2. **Results**		
a. Assessment results -- measures of learning	15	15*
b. Graduates' satisfaction	15	15
c. % of graduates who (i) are employed in program-related work; (ii) are pursuing further study; or (iii) identify the program as significantly contributing to their functioning as workers and citizens	10	5
d. Of graduates who take the licensure exam, the percentage who fail compared to the national average in that field (possible reduction)	-5	N/A
3. **Program costs and resources**		
a. Total direct program costs / annual SCH	30	30
b. Outside revenues, by kind (possible addition)	5	N/A
4. **Length of program (possible reduction)**	-5	-5
TOTAL	101	73

*Incomplete data.

1. (a) Average Number of Graduates

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Yeer Average– 1989-90 through 1993-94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Protective Services	7	5	4	13	14	8.6	7.0	122.9%	**10**
College Totals	214	170	151	209	213	191.4	Percent of College Totals	4.5%	**3**

SOURCE: *VCCS Graduate Booklets*, Table 5B.

1. (b) Average Number of FTE Majors

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Yeer Average– 1989-90 through 1993-94	SCHEV Criteria	Percent of Criteria	Review Points Earned
Protective Services	19.6	30.2	36.3	42.2	46.7	35.0	17.5	200.0%	**10**
College Totals	1934.7	1987.9	2034.8	2003.5	1871.2	1966.4	Percent of College Totals	1.8%	**0**

SOURCE: VCCS SIS database. The average FTE major was calculated by adding the summer, fall, and spring term credit hours and then dividing by 30.

1. (c) Ratio SCH/FTEF (Student Credit Hours / Full-Time Equivalent Faculty)

	1989-90	1990-91	1991-92	1992-93	1993-94	5-Year Average--1989-90 through 1993-94	Percent of College Total	Review Points Earned
	Protective Services							
Student Credit Hours	564.00	766.00	989.00	864.00	815.00	799.60		
FTEF	1.17	1.60	2.06	1.80	1.70	1.67		
Ratio	482.05	478.75	480.10	480.00	479.41	480.06	91.7%	5
	College Totals							
Student Credit Hours	58,041.00	59,637.00	61,046.00	60,108.00	58,938.00	59,554.00		
FTEF	111.29	113.96	116.05	115.22	112.39	113.78		
Ratio	521.53	523.32	526.03	521.68	524.41	523.39	100%	

SOURCE: VCCS PAS (Productivity Analysis System) 500 Report (by discipline).

2. (a) Assessment Results

The college conducts thorough and regular assessment of all instructional programs. Each program is reviewed periodically on a regular schedule, and results are used to improve instruction.

Program graduates are assessed annually by a graduation rehearsal survey, administered to students the day before graduation; a graduate follow-up survey, conducted approximately six months after graduation; a transfer survey of students transferring to senior institutions of higher education; an employer survey, conducted approximately one year after graduation; and on a rotating basis, one of three standardized tests (Watson-Glaser Critical Thinking Appraisal; Student Satisfaction Survey; or the Academic Profile).

Additionally, an extensive review is conducted for each instructional program at least every five years. The review includes analysis of program goals and objectives; enrollment trends (both headcount and FTES); number of graduates; skills and knowledge of program completers; student satisfaction with education and training received; adequacy and availability of counseling and advising; course availability; placement of graduates; employer satisfaction with graduates; current and predicted employment opportunities; transfer rates to senior institutions; qualifications and achievements of program faculty; primary teaching methods; student outcomes; the curriculum; and other non-quantifiable factors.

The program in Protective Services was last formally reviewed, based on the five-year cycle, in 1991-92. As a result of this review, the following changes have occurred:

Assessment Finding:

Source of Finding:

Resulting Changes:

Assessment Finding:

Source of Finding:

Resulting Changes:

Review Points Earned:

2. (b) Graduates' Satisfaction

	with respect to employment	*with respect to college transfer*	*Total (5-Yr. Average)*	*Percent of Total*	*Review Points*
	Satisfaction with Academic Program (Course Availability)				
Satisfied Graduates	12	2	14	87.5%	5
Unsatisfied Graduates	2	0	2	12.5%	
	Satisfaction with Support Services				
Satisfied Graduates	8	3	11	84.6%	5
Unsatisfied Graduates	2	0	2	15.4%	
	Satisfaction with PVCC Education				
Satisfied Graduates	18	8	26	92.9%	5
Unsatisfied Graduates	1	1	2	7.1%	
	TOTALS				
Satisfied Graduates			51	89.5%	**15**
Unsatisfied Graduates			6	10.5%	

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (c) Percent of Graduates Employed in Program-Related Work, Pursuing Further Study, or Who Have Identified the Program as Significantly Contributing to their Functioning as Workers and Citizens

Graduate Respondents Employed in Program-Related Fields	Graduate Respondents Pursuing Further Education	Total Graduate Respondents Meeting Criteria	Total Graduate Respondents	Percentage of Total Respondents Meeting Criteria	Review Points Earned
7	10	17	24	70.8%	**5**

SOURCE: *Follow-Up Survey of PVCC Graduates*, 1989-90 through 1993-94.

2. (d) Licensure Examination Results

Not applicable.

3. (a) Total Direct Program Costs ÷ Student Credit Hours

	Personal Services	Other Direct Costs	Total 1994-95 Expenses	Student Credit Hours (1994-95)	Ratio (Cost/SCH)	Percent of Program Ratio to College Ratio	Review Points Earned
Protective Services	$ 1,151.35	$ 602.80	$ 1,754.15	767	$ 2.29	1.3%	**30**
College Totals			$ 9,642,686.00	56,033	$ 172.09		

SOURCE: VCCS SIS database. The methodology used to calculate cost was to combine program personal services costs with other direct program costs, determine the ratio of cost to student credit hours and compare that with the ratio of college costs to college student credit hours. Personal services include salaries and benefits but remove release time assignments. Other direct costs include such items as supplies and travel.

3. (b) External Funding

At present, PVCC's Protective Services program does not generate revenue from external sources.

Review Points Earned: **0**

4. **Length of the Program**

Type of Program	*Length (in credits)*	*SCHEV criteria (in credits)*	*Review Points Earned*
A.A.S.	67	65	**-5**

5. **Provost's Statement About the Program and Its Future**

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

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