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ABSTRACT

The purpose of this report is to present the background and findings of a study conducted at Chemeketa Community College (CCC) during 1978-79 in which survey information gathered from former students and their employers was applied to a cost-benefit model to determine the usefulness of nine vocational programs. These programs were early childhood education, computer programming, fire science, forest technology, forest products, machine shop, medical assisting, nursing, and well drilling. After defining the place of the cost-benefit study within CCC's overall Program Improvement Plan, the report summarizes the data gathered from Spring 1978 graduates. Age, characteristics, employment status, sources and amounts of financial aid, and perceptions of non-economic benefits are provided for graduates of each program. The report then outlines the findings related to non-graduating students who began programs in 1976, in terms of their educational objectives, reasons for leaving, attitudes toward CCC, employment/educational status, and perceptions of non-economic benefits of program participation. Employers' attitudes toward the job skills of graduates are then presented, followed by an explanation of the cost-benefit model, in which a matrix summarizing instructor cost per course and student was used along with survey findings to provide cost-benefit ratios for each of the program areas. (JP)

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CHEMEKETA COMMUNITY COLLEGE

CHEMEKETA'S

ACCOUNTABILITY

DEFINED

ED180570

A Study of the Costs and Benefits of Nine
Vocational-Technical Programs

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A Report
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January 1979

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I. INTRODUCTION AND BACKGROUND FOR THE STUDY.

The Program Improvement Plan: In August of 1977, the Chemeketa Board of Education and the President established guidelines for undertaking a comprehensive review (called the Program Improvement Plan) of the College's occupational education programs. One component of these institution-wide guidelines directed the staff to develop

"...a system which will allow the comparison of the costs of educational programs with the benefits of those programs. This system should be based upon extensive surveys of current and former students and of employers to determine the effectiveness and usefulness of the course offerings. This system should be so designed that courses can be ranked in relation to their cost-benefit ratio."
(President's Memo, October 24, 1977).

As an initial step toward this aspect of the Program Improvement Plan (PIP), three objectives were planned for fall term of 1977. These objectives included (1) the search and review of the community college literature for knowledge of cost-benefit concepts and methodologies; (2) the construction of a preliminary "C/B" model which would incorporate the standards set by the PIP guidelines; and (3) a pilot test of the model's useability by applying it to a couple of Chemeketa's vocational-technical programs. In December (1977), the Division of Instructional Services submitted a report to the President and the Chemeketa Board of Education which described a potential cost-benefit model for assessing the institution's occupational instruction. This report also included information of a limited and cursory nature on how the model worked when applied to the College's Well-Drilling and Criminal Justice curricula.

Then in April (1978), Chemeketa moved into its second year of the comprehensive review process. During the planning for this phase, three goals were established for completion during the coming academic year of 1978-79. The first of these goals specified that the cost-benefit model should be applied to at least nine occupational programs and that a report be submitted from the Division of Instructional Services to the President by January of 1979. The second goal focused attention on the need to have the model evaluated for its usefulness, particularly the non-economic benefits side, by the Advisory Committees for the programs with an assessment completed by March, 1979. The final goal indicated that the program staff should be given the opportunity to evaluate the model and complete their review by June, 1979.

The purpose of this document is to describe the results which have been made to achieve the first of the 1978-79 goals---the application of the model to nine occupational program areas. The following section of this document presents the rationale for the programs selected, and

it identifies the major definitions and common procedures used in carrying out the work.

Rationale for Programs Selected

Part of the work done during 1977-78 for the comprehensive review process involved a compilation of the direct cost per full-time equivalent (FTE) student for each of the College's programs. (Please see Chemeketa Community College Assessment Program; August 1977 through February 1978, a report submitted to the Board of Education by President Arthur A. Binnie on February 9, 1978). Using this approach, Chemeketa's occupational programs were ranked from high to low costs for the years 1977-78 and 1978-79. Early Childhood Education, Computer Programming, Fire Science, Forest Products, Forest Technology, Machine Shop, Medical Assisting, Nursing, and Well-Drilling were identified as potential high cost centers in 1978-79, and on this basis, were selected for further study and analysis during 1978-79.

Key Definitions Used in the Study

Although several definitions were used to implement the study, the fundamental definitions concern the terms of graduates and leavers. A graduate is defined as someone who completed requirements for either a certificate or an Associate of Science degree during 1977-78. A graduate is further defined as an individual who received the award at graduation in the spring of 1978. A leaver, on the other hand, is defined as a person who started his(her) study with a declared major in one of the nine occupational programs in the fall of 1976 (except for the Medical Assisting Program which is a one-year curriculum and a student would have started in the fall of 1977), but who did not graduate in the spring of 1978. For purposes of this study, a leaver is also characterized as someone who may no longer be enrolled at Chemeketa, or the person may still be attending Chemeketa, but pursuing a different course of study.

Common Procedures-Implementing the Model

In order to have a systematic and an identical process for implementing the cost-benefit study, a set of activities and time frames "common" to all the nine occupational areas were established and used as benchmarks for the work (please see Appendix A for a copy of this information). There were also other commonalities involved in the collection of the data. For example, in the graduate, leaver, and employer parts of the study, all instruments were reviewed for their content or face validity. Then during the collection of the information all the people (e.g., graduates) who did not respond to the initial mailing of the questionnaire were mailed another copy of the form with a reminder letter asking for their participation.

Organization of the Report

The remainder of this report is organized into four major components: the first one graduates; the second section concerns leavers; the third portion deals with employers' perceptions of the effectiveness of graduates on the job; and, the final division provides information on the economic costs and benefits of the nine occupational programs. The material presented in the four sections of the document is basically descriptive and straight forward as compiled from the original information sources. Summary, analysis, and recommendations are organized into a separate section for quick review by the reader. Perhaps, a final, quick and overall way to convey the organization of this report is to use a relatively simple diagram of the Cost-Benefit model (see Figure 1.).

FIGURE 1. COST/BENEFIT MODEL

Component	Objectives
Graduates' Characteristics and Perceptions	<ul style="list-style-type: none">. Age Characteristics. Employment Status. Financial Characteristics. Non-economic Benefits
Leavers' Characteristics and Perceptions	<ul style="list-style-type: none">. Educational Goals. Reasons for leaving. Attitude toward Chemeketa's services. Employment/Educational Status. Non-economic Benefits
Employers' Attitudes of Graduates	<ul style="list-style-type: none">. Effectiveness of graduates job skills
Economic Costs and Benefits	<ul style="list-style-type: none">. Economic Costs. Economic Benefits. Cost-Benefit Ratio(s)

II. GRADUATES' CHARACTERISTICS AND PERCEPTIONS

The first component of the cost-benefit model required gathering information from the 1978 graduates of the nine occupational programs. To be more specific, the College wanted to know the following about the graduates:

- the age characteristics of the people when they entered the particular occupational area and their ages at graduation;
- the employment status of the individuals before they began their studies, their job status while studying, and their plans for using their education upon graduation from Chemeketa;
- the financial characteristics of the students before, during, and after studying;
- and, the opinions of the graduates about the non-economical benefits they would attribute to their training.

Table 1 shows the number of students who graduated from Chemeketa Community College during 1977-78 in Early Childhood Education, Computer Programming, Fire Science, Forest Products, Forest Technology, Machine Shop, Medical Assisting, Nursing, and Well-Drilling. The table also indicates the total number of people who started in the particular vocational technical program in fall of 1976 except in the case of the Medical Assisting Program, a one-year curriculum, where students entered in the fall of 1977.

TABLE 1. SUMMARY INFORMATION - 1978 GRADUATES

Program	Number of People Who			Percentage of Graduates Who	
	Started	Graduated	Replied	Finished	Replied
1. Early Child Ed.	44	21 (9)*	17	48	81
2. Computer Prog.	22	7 (4)	5	32	71
3. Fire Science	30	18 (14)	7	60	39
4. Forest Products	5	2 (2)	2	40	100
5. Forest Tech.	21	15 (14)	8	71	53
6. Machine Shop	19	7 (3)	6	37	86
7. Medical Assisting	20	14 (0)	14	70	100
8. Nursing	104	55 (8)	46	53	84
9. Well-Drilling	13	9 (2)	8	69	89
TOTALS	278	148 (56)	113	53	76

*The figure in the parenthesis indicates the number of people who graduated, but who started at sometime other than fall term of 1976 or the fall of 1977 in the case of the Medical Assisting Curriculum

Several significant statistics are revealed in Table 1. Among these statistics, it is interesting to note that of the 278 people who entered the nine programs in the fall of 1976, 148 (or 53%) graduated within the normally prescribed length of training. However, of equal interest is the fact that of the 148 graduates, 56 graduates started their studies at some time other than the fall quarter of 1976. One final observation should, perhaps, be made regarding Table 1. Of the 148 graduates, 113 (or 76%) replied to the College's survey. Normally, returns are considered respectable and noteworthy when they are in the 50-60% return range for questionnaires. Because the Placement office contacted many students in their classes prior to their leaving campus in June of 1978, this may well account for the high returns, and it is a procedure which should be encouraged in future follow-up studies.

The next section of this report displays the information gained from the 1978 graduates by curriculum, (please see Appendix B for a copy of the Graduate Follow-Up Form and the cover letter mailed to the graduates and Appendix C for copy of the reminder letter to non-responding graduates).

Early Childhood Education

For the 1977-78 Early Childhood Education graduates who replied to the questionnaire, their age characteristics, employment status during college, employment plans after graduation, financial attributes, and non-economic benefits ascribed to their training are given below.

Age Characteristics Of the 17 Early Childhood Education graduates who returned the questionnaire form, 16 people provided age data. At entrance to the program in the fall of 1976, their ages ranged from 18 to 36. Ten (or over 50 percent) of the 16 respondents were in the 18-19 age category. The average age for the graduate was 22.

Employment Status The 1978 graduates of the Early Childhood Education Program were asked to indicate if they worked while attending Chemeketa, if their employment was related to their training, name and address of employer, job titles, salary, and hours per week employed.

Table 2 shows of the 17 graduates who replied to the survey, nine persons provided useable information regarding their employment while studying at Chemeketa. Three of these individuals were employed in jobs directly related to their training in the Early Childhood Education Program.

Of the nine individuals responding, eight were employed on a part-time basis, averaged 17 hours per week and \$3.24 per hour for wages. The one individual who reported full-time employment indicated 40 hours per week and a rate of \$32.00 per day.

TABLE 2. Employment Status Early Childhood Education Students Attending Chemeketa

Job Related to Training	Name/Address of Employer	Job Title	Salary (hr.)	Full-Time/ Part-Time	Hours Work/ Week
No	LaPointe's Ladies Ready to Wear (Salem)	Salesperson	\$3.25	PT	10
No	Lancaster Mall Theater (Salem)	Cashier	\$2.65	PT	16
No	Salem General Hospital (Salem)	Dietary Aide	\$3.46	PT	12
No	Sun-Enterprise Newspaper (Monmouth)	General Office Assistant	\$3.18	PT	8
Yes	Child Development Center (Chemeketa)	Student Assistant	\$3.76	PT	20
Yes	Small World Day Care (Salem)	Program	\$2.68	FT	40
No	Title I, Summer School (Salem)	Assistant Teacher	\$4.00	PT	40
Yes	Community Christian Kindergarten (Salem)	Teacher	\$3.00	PT	20
No	Lancaster Mall Theater (Salem)	Cashier	\$2.65	PT	5
9 persons	-	-	\$3.24 (aver.)	-	17 hrs. (aver., PT)

Graduates of the Early Childhood Education Program were asked if they were not working at the time of the survey (May, 1978), if they had employment arranged for after graduation. Graduates' replies are presented in Table 3.

TABLE 3. Early Childhood Education Graduates Employment Plans

Job Related to Training	Name/Address Employer	Job Title	Salary (hr.)	FT/PT	Hrs. Work (Week)	Starting Date
Yes	Title I, Summer School (Salem)	Aide	\$4.00	FT	40	6/20/78
Yes	Snowhomish Day Care (WA)	Teacher	\$2.65	FT	35	9/-/78
No	Stayton Canning Co.	Belt	\$3.37	PT	40	7/-/78
Yes	Community Christian Kindergarten (Salem)	Teacher	\$3.00	PT	20	9/5/78
4	-	-	\$3.22 (aver.)	-	32 (aver.)	-

Of the 17 graduates replying, three persons indicated having employment directly related to their training upon graduating. Salary information indicates an average of \$3.22 per hour and an average of 32 hours per week, with two of the graduates beginning employment within one month of graduation.

Financial Characteristics The graduates of the Early Childhood Program were asked to indicate how much money they earned during the year before starting their studies. Of the 17 graduates, returning the questionnaire, 11 answered this particular item, indicating an average of \$2,511.00 for their earnings. Early Childhood graduates were also asked to indicate the approximate amount of money they earned during their last year at Chemeketa Community College. For the 11 persons supplying information, an average of \$1,390 was determined for the group.

Table 4 shows the principal sources of funds for the students while attending Chemeketa.

TABLE 4. Principal Source Funds -
Early Childhood Education Graduates

Source	Number - Students	Average %
A. Parents	9	68
B. Personal Earnings	9	38
C. Agency Assistance (i.e., CETA, DVR, Welfare)	3	35
D. Financial Aid (i.e., work study, scholarships, loans)	6	47
E. Spouse	3	42
F. G.I. Bill	-	-
G. Other (Social Security, grant)	4	47

The data seem to suggest that more than fifty percent of the graduates (9 out of 17 replying) receive their funds principally from their parents, with financial aid accounting the second principal source of funds to finance their education.

The Early Childhood graduates were requested to indicate approximately how much it cost over and beyond their usual living expenses for them to go to Chemeketa (i.e., travel from outside Salem, child care, lab fees, tools and equipment, uniform and shoes).

The estimates provided by the 12 graduates ranged from \$30. to \$3,000. for unusual expenses during 1977-78, with an average of \$499.00 for the 12 reporting graduates.

If any of the Early Childhood Education graduates reduced or stopped employment to attend Chemeketa, the graduate was asked to indicate the approximate cost while in school. Three persons responded, indicating \$2,860.00, \$1,500.00 and \$2,220.00 or an average of \$2,193.00 costs while at Chemeketa.

One of the 1978 graduates paid out-of-district tuition for two terms: 16 paid the in-district-rate.

Non-Economics Benefits For the training received at Chemeketa, each graduate was asked to identify the most important benefit and the second most significant gain. These benefits are reported as presented by the 17 graduates answering the survey.

Most Important Benefit "It has given me a career." "To help increase my own personal growth through Early Childhood Education classes that I feel should be of benefit for the future." "Self confidence." "To learn more about how to work with children." "The fact that I have accomplished something I have always wanted to do. It has helped my self confidence very much. To feel I can be a professional at teaching preschool children." "To learn more about my field; to become a better and more efficient preschool teacher." "Being a well-trained, qualified teacher of young children." "To become a teacher." "To get a job in Early Childhood Education." "My own self-growth. The two years I've been here, I've learned more about myself, how to deal with people and how to take advice and/or constructive criticism. If I never get a job in Early Childhood Education, I feel what I learned will always benefit me no matter what I do." "Training in Early Childhood Education for employment." "Being in the Early Childhood Education program." "I received a great feeling of adequacy and capableness. I feel I accomplished a great deal towards personal growth. I've become more aware of techniques, resources and myself. I feel very confident in teaching children and handling my own when the time comes." "Benefit? There are many benefits, learning to work with children, helping and guiding them to grow not only physically and mentally, but socially and emotionally as well. Learning to work with and understanding parents and parenting. These are only a few of the benefits. Also finding my place and knowing I've found the right place! Working with children is a benefit to all, helping our future adults grow - what could be more important - their futures will affect ours!" "Personal growth." "Self confidence - important self-image." "Understanding myself."

Second Most Important Benefit "Made me more independent and self confident. I can also be more assertive in my relationships with other people, especially my children." "Help me in having the appropriate training that is important for a job in the Early Childhood field." "To believe in myself. I feel that after being in this program for two years, I have grown in my own worth. I feel this program has made me a better parent and all around human being. It has made me interested in other people and I can see things with an open mind." "Because I love children." "I have found that I want to further my education. By getting into the system here. (As far as I'm concerned, I think this is a great school)." "I learned more about myself as a whole person and how to better myself and to communicate better with others and to deal with others as a whole." "All on knowing more for raising my own children. Also better communication with other adults and children. Also knowing I have gained more confidence and knowing I am capable of doing anything in life. Thanks to the staff and other students in the Early Childhood Education program." "Beneficial for when I have a family. Also in understanding the development of a child." "For personal growth to learn more about children of my own. This program has helped me understand children better and myself a lot better." "Learning how to help people with their children whether its in a preschool setting or not. Being able

to give advice that I believe in and can stand on due to experience." "Personal growth, parenting, communication skills. Self confidence, warm relationships, feeling of self worth, friends, enjoyment. Although employment is important, I cannot say it is more important than the others. Without the others - employment would be impossible." "Not only the curriculum, but personal growth. I learned how to communicate. I have a better knowledge of child development, which will help me with my own family. I have a lot higher self-esteem, thanks to all the teachers' support from this program! The opportunity to get to know some fantastic people." "Parenting techniques." "Job was my first goal when I started school, but the longer I went, the more I realized how much I valued the "new" me." "Realizing the need of Early Childhood Education."

Computer Programming

Of the seven graduates, five people (or 71%) answered the College's Graduate Follow-Up Form. Their ages, financial characteristics, employment patterns, and stated non-economic benefits are reported next.

Age Characteristics All five of the 1978 Computer Programming graduates supplied information about their ages at the time they entered the program in the fall of 1976. Their ages ranged from 21 to 43, with 31 as the average age.

Employment Status Three graduates of the five replying completed this part of the questionnaire. Two of the persons were employed in jobs related to their training at Chemeketa. One worked part-time (32 hrs./wk.) for the State of Oregon as a Computer Programmer I and earned \$816 per month. The other individual was employed by the firm of Lippold Brenner and Bingenheimer as a full-time programmer and received \$900 per month. One individual was employed full-time as an Administrative Assistant II for the Children's Services Division, but in a position unrelated to the Chemeketa training.

Two of the five graduated indicated they were not working at the time of the survey, but they did have jobs arranged upon graduation directly related to their training. Both stated they would be employed full-time in Salem as programmers, however, only one of the persons provided starting salary data, which was \$769 per month.

Financial Characteristics Graduates were asked, if they were employed before they started studying at Chemeketa to indicate the approximate amount of money they earned during the year prior to studying. One person earned \$6,000; another individual indicated \$15,000.

Graduates were also asked to identify their principal source of funds while attending Chemeketa. This information is presented in Table 5.

TABLE 5. Principal Source Funds -
Computer Programming Graduates

Source	Number - Students	Average %
A. Parents		
B. Personal Earnings	2	75
C. Agency Assistance (i.e., CETA, DVR, Welfare)	2	38
D. Financial Aid (i.e., work study, scholarships, loans)	2	43
E. Spouse	2	100
F. G.I. Bill		
G. Other (Social Security, grant)	-	-

The graduates of the computer programming curriculum were requested to indicate approximately how much it cost over and beyond their usual living expenses for them to go to Chemeketa (i.e., travel from outside Salem; child care, lab fees, tools and equipment, uniform and shoes). Five graduates provided approximate costs during 1977-78 for expenses; these estimates ranged from \$100 to \$,000 with an average of \$580 for the five graduates.

The graduates were polled regarding whether they reduced or stopped employment to attend Chemeketa; and, if so, to indicate how much it cost them while in school. Only two graduates reported this information: one stated \$12,000, while the other stipulated \$15,000, giving \$13,500 for an average. All five graduates responding paid the in-district tuition rate.

Non-Economic Benefits All graduates were asked to state their most important and second most important gains from the training, which are shown separately.

Most Important Benefit "Job opportunity; qualified for present position." "Job related courses and CWE." "Retraining because of illness; I can now get on the State listing."

Second Most Important Benefit "The people I met; the experience and communication the programmers had with each other." "Great competition for my college children - made them work harder." "Further education in data processing."

Fire Science

Seven of the 18 graduates of 1977 returned their questionnaires. Their surveys provided the following summative information.

Age Characteristics As of fall 1975 when the seven entered the Fire Science Program, their ages ranged from 18 to 24, with an average of 21 for the students.

Employment Status Graduates of the Fire Protection Program were asked to report their employment status. The responses from the seven graduates are summarized and presented in Table 6.

TABLE 6. Employment Status, Fire Science Graduates

Job Related to Training	Name/Address Employer	Job Title	Salary (mo.)	FT/PT	Hrs. Work (Week)	Starting Date
Yes	Jackson County Fire Dist. #3 White City, OR	Fire Fighter	\$ 978			9/30/77
Yes	City of Salem Fire Dept.	Fire Fighter	\$ 890			7/1/78
Yes	Woodburn Fire Dept.	Fire Fighter	\$ 890			9/15/78
Yes	City of Corvallis Fire Dept.	Fire Fighter	\$1036			9/12/78
Yes	Oak Lodge Fire Dept. (Milwaukie)	Fire Fighter	\$1398			7/5/77
Yes	City of Roseburg	Fire Fighter	\$1012			11/16/76
Yes	City of Silverton	Fire Prevention Officer	\$ 733			7/1/77
7	-	-	\$ 991 (aver.)			-

From the data in Table 6, \$991 per month was the average salary for the 1977 graduates of the Fire Science curriculum, with five of the graduates having employment within three months after receiving their associate degree. Two of the other graduates were already employed in fire fighting roles.

Financial Characteristics Five of the 18 Fire Science graduates in 1976-77 provided data about the amount of money they earned during 1975-76, the year prior to assuming their studies at Chemeketa. The five estimates ranges from \$1,098 to \$10,800 with an average of \$5,579 for the five people.

Six of the 18 graduates provided data regarding the amount of money they earned while studying in 1976-77, the second year of their program. These six estimates ranged from \$473 to \$9,840, with an average of \$6,202 for the six graduates.

Table 7 describes the principal sources of funds for the Fire Science graduates while they were attending Chemeketa.

TABLE 7. Principal Source Funds - Fire Science Graduates

Source	Number - Students	Average %
A. Parents		
B. Personal Earnings	5	46
C. Agency Assistance (i.e., CETA, DVR, Welfare)	2	41
D. Financial Aid (i.e., work study, scholarships, loans)	4	14
E. Spouse	4	31
F. G.I. Bill	3	55
G. Other (Social Security, grant)	1	43

Six of the seven graduates replied to the question regarding the approximate amount of money it cost them over and beyond their usual expenses to attend Chemeketa. An average of \$604 per year was estimated by the six graduates to cover such costs as travel from outside Salem, child care, lab fees, tools and equipment, and uniforms and shoes.

Four Fire Science graduates provided estimates of the amount of money they lost while attending Chemeketa. The average cost of foregone earnings for the four graduates was \$11,465. One of the graduates paid out-of-district tuition for six terms; the other six graduates paid the in-district rate.

Non-Economic Benefits Each graduate was asked to report the most important and the second most important benefits of the training. The responses of the six Fire Science graduates indicates:

Most Important Benefits "The kind of job I wanted to pursue."
"Employability." "I am now a fire fighter, instead of doing a job I don't like." "A job." "Better understanding of my profession."
"Securing my present job." "Helping getting hired."

Second Most Important Benefit "Education" "Money" "Friends"
"Getting into the profession" "Helping in advancement".

Forest Products

According to college records, five students started the Forest Products Program in the fall of 1976. Two of the students graduated from the program in 1978; both of the students completed the Graduate Follow-Up Survey forms mailed to them, resulting in the following data.

Age Characteristics The average age for the two graduates at the time they entered the program was 23; the average age at graduation time was 25.

Employment Status One of the two students was employed at the time of the survey (May, 1978) in a job directly related to the training at Chemeketa. This position involved working as a chainman for the U.S. Forest Service in Sweet Home (Oregon) on a full-time basis at \$4.28 per hour. This person anticipated continuing the employment after receiving the associate degree in Forest Products. The other graduate did not have at the time of the survey a job related to his Chemeketa training, and was unsure of his future job status for using the training.

Financial Characteristics Of the two graduates replying to the survey, one earned approximately \$900 per month in 1975-76, the year prior to assuming full-time studies in the Forest Products curriculum. One of the 1978 completers earned approximately \$8,500 in 1977-78 while studying full-time at Chemeketa. One graduate supported his education 100% with personal earnings, while the other graduate financed his education with agency assistance (90%) and financial aid (10%). One graduate spent approximately \$1,000 in 1977-78 for expenses over and beyond the usual costs to pay for his education. One of the graduates paid the out-of-district tuition rate for all six terms of the program.

Non-Economic Benefits The primary and secondary benefits of the training received by the two Forest Products graduates shows:

Most Important Benefit "Hearing what field to study and what not

to study." "The degree and training in what you like."

Second Most Important Benefit "Completeness of program."

Forest Technology

In 1977-78, fifteen persons completed the requirements for the Associate of Science Degree in Forest Technology. Of these 15 graduates, eight individuals completed and returned the Follow-Up Questionnaire.

Age Characteristics The average age of the eight graduates at entrance to the program in the fall of 1976 was 22, with 25 as the average age at the time of graduation in 1978. For the eight graduates, when they entered the program their ages ranged from 18 to 27, but by the time of graduation in the spring of 1978, their ages ranged from 21 to 31 because several of the graduates had taken more than two years to complete the curriculum.

Employment Status The 1978 graduates of the Forest Technology Program were asked if they had completed arrangements for employment related to their training received at Chemeketa. The responses of the eight graduates are summarized in Table 8.

TABLE 8. Employment Status, Forest Technology Graduates

Job Related to Training	Name/Address Employer	Job Title	Salary (hr.)	FT/PT	Hrs. Work (Week)	Starting Date
Yes	Bureau of Land Management (Salem)	Forest Tech.	\$4.28			4/78
Yes	Bureau of Land Management (Salem)	Forest Tech	\$4.28			3/78
Yes	George J. Lumber (Woodburn)	Woods Foreman	\$6.00			4/78
Yes	U.S. Forest Service (Detroit, OR)	Forest Tech	\$4.28	PT*	40	6/78
Yes	U.S. Forest Service (Waldport, OR)	Foreman	\$4.28	FT	50	6/78
Yes	U.S. Forest Service (Paulina, OR)	Foreman	\$4.28	PT *	50	6/78
No	--	--	--			--
No	Marion County Highway Dept. (Salem)	--	--			--
8		--	\$4.56 (average)			5/78 (average)

* Seasonal Employment

Of the eight Forest Technology graduates who provided employment data, six reported working in positions directly related to their school training. The most typical salary was \$4.28 per hour; however, \$4.56 was the average remuneration for the six graduates reporting. The six graduates were either employed at the time of the survey or were preparing for entry into employment within one month of their graduation.

Final Characteristics Three of the 1978 Forest Technology graduates provided estimates of the amount of money they earned in 1975-76 prior to commencing their studies in the fall of 1976. The average amount earned in 1975-76 by the three graduates was \$7,700. Four of the eight responding graduates indicated earning from \$500 to \$5,000 during 1977-78 while studying full-time at Chemeketa, leading to an average of \$3,375 for the four persons. Table 9 describes the source of funds used by the Forest Technology graduates.

TABLE 9. Principal Source Funds - Forest Technology Graduates

Source	Number - Students	Average %
A. Parents	1	80
B. Personal Earnings	6	55
C. Agency Assistance (i.e., CETA, DVR, Welfare)		
D. Financial Aid (i.e., work study, scholarships, loans)	2	10
E. Spouse	2	65
F. G.I. Bill	4	60
G. Other (Social Security, grant)		

These data suggest that for 1978 graduates, most of the students used their personal earnings to finance the costs of their education. The G.I. Bill was the second most frequent method of paying for the educational costs of the Forest Technology training.

Five of the eight graduates of 1978 provided estimates of the costs over and beyond the usual expenses to attend Chemeketa during 1977-78. Although these estimates ranged from \$50 to \$2,400 for the year, the information suggests \$896 as a reasonable average for unusual expenses.

The Forest Technology graduates were also asked to indicate, if they reduced or stopped employment to go to Chemeketa, how much it cost them. The estimates of foregone earnings ranged for five graduates from \$800 to \$14,500, causing an average of \$5,360.

Two of the eight graduates paid the out-of-district tuition rate; one paid the amount for two terms, the other individual showed nine terms paid.

Non-Economic Benefits For the training the graduates received, they mentioned the following primary and secondary benefits:

Most Important Benefits "My own accomplishment." "None. Couldn't find a job in Forest Technology." "Forest Mensuration." "Overall knowledge of the forest and its parts." "Education." "Increased my knowledge in forestry." "On-the-job co-op work experience." "Timber cruising."

Second Most Important Benefit "Related skills in the trade." "Broadened my overall knowledge of the different subjects I studied." "Job." "Tree I.D." "Completion of field of interest." "Surveying." "Technical knowledge."

Machine Shop

Seven persons completed the requirements of the Associate of Science Degree in Machine Shop in 1977-78. Six of these seven graduates returned their Follow-Up Questionnaires.

Age Characteristics Of the seven graduates, six provided age information. For the six, their ages ranged from 18 to 40, with an average age of 29 for the six persons when they entered the program in the fall of 1976.

The average for the six graduates when they entered the Machine Shop program was 29; however, their ages ranged from 18 to 40. Two years later, in 1978, at the time of graduation their average age was 31.

Employment Status Table 10 describes the job related status of each graduate (six of seven graduates replied) of the Machine Shop Program.

TABLE 10. Employment Status, Machine Shop Graduates

Job Related to Training	Name/Address Employer	Job Title	Salary (hr.)	FT/PT	Hrs. Work (Week)	Starting Date
Yes	Salem Equipment	Drill Press Operator	\$5.00	FT	40	--
Yes	Salem Equipment	Apprentice-ship Machinist	\$6.50	FT	40	--
Yes	Freightliner Corp (Portland)	Machinist	\$6.31	FT	40	6/78
Yes	Salem Research & Development	Machinist	\$5.00	FT	40	--
Yes	Willamette Ind. (Dallas)	--	\$7.65	FT	40	--
6			\$5.08 (aver.)			6/78

Five of the six graduates were employed full-time at the time of the study (May, 1978), with the other person anticipating employment starting in June, 1978. Although the wages for the six graduates ranged from \$5.00/hr. to \$7.65/hr., the average salary per hour for the six graduates was \$5.08.

Financial Characteristics The 1978 graduates of the Machine Shop Technology Program were asked to indicate, if they were employed in 1975-76, the year before they began their studies, the approximate amount of money they earned. Only one Machine Shop graduate replied to this particular item. And, he indicated earning approximately \$8,000 in 1975-76, prior to assuming full-time studies. Two of the six graduates responded to the question regarding the approximate amount of money they earned during 1977-78 while attending Chemeketa. One stipulated \$3,000 and the other person mentioned \$12,000, resulting in an average of \$7,500 for the two graduates replying.

Table 11 shows the source of funds for the Machine Shop graduates of 1978.

TABLE 11. Principal Source of Funds - Machine Shop Graduates

Source	Number - Students	Average %
A. Parents	---	---
B. Personal Earnings	3	42
C. Agency Assistance (i.e., CETA, DVR, Welfare)	3	80
D. Financial Aid (i.e., work study, scholarships, loans)	2	63
E. Spouse	1	20
F. G.I. Bill	2	20
G. Other (Social Security, grant)	1	50

Based upon this budgetary information, agency assistance, financial aid, and personal earnings were significant sources of income for the 1978 Machine Shop graduates.

Two of the six Machine Shop graduates supplied estimates of how much it cost them over and beyond their usual expenses to attend Chemeketa during 1977-78. One person indicated \$400 and the other individual claimed \$700, creating an average of \$550 for unusual expenses in 1977-78. Of the six graduates, only one person provided an estimate of foregone earnings while attending Chemeketa, which was given as \$4,800 for 1977-78. And, of the six graduates who answered the questionnaire, five paid the in-district tuition rate and the other individual paid out-of-district rate for six terms.

Non-Economic Benefits For the training the Machine Shop graduates received, they stated the following as the most important and the second most important benefits:

Most Important Benefits "The learning of a new trade." "Knowledge." "Learn a trade." "Skill." "Shop Labs." "Learn trade to go to work."

Second Most Important Benefits "Help to find good job WRE." "Class room." "Job placement." "Job."

Medical Assisting

According to College records, 14 people graduated from the Medical Assisting Program in 1978, and all of them replied to the Follow-Up Questionnaire given to them in May of 1978.

Age Characteristics The ages of the Medical Assisting students at the time they entered the one-year certificate program in the fall of 1977, ranged from 17 to 36, with most of the people (10 out of 14) 20 years old or less. The average age at entrance was slightly higher--age 22 for the 14 students.

For the 14 Medical Assisting students who began their studies in the fall of 1977, their ages ranged from 17 to 36, with a similar age range occurring at the time of their graduation in the spring of 1978.

Employment Status Table 12 provides summary information regarding the employment status of the 11 Medical Assisting graduates who replied to this section of the questionnaire.

TABLE 12. Employment Status, Medical Assisting Graduates

Job Related to Training	Name/Address Employer	Job Title	Salary (hr.)	FT/PT	Hrs. Work (Week)	Starting Date
Yes	Salem Memorial Hospital	Med. Transcriptionist	\$4.42	FT	40	--
No	Champion Bld. Products (Willamina, OR)	Labor Worker	\$7.23	PT	16	--
Yes	Silverton Family Clinic	Med. Assistant	\$3.25	FT	40	--
Yes	Dr's Clinic (Salem)	Med Assistant		FT	38	6/78
Yes	Private Physicians	Insurance Secretary	\$4.00	FT	40	8/78
Yes	Medical Center (Salem)	Med. Assistant	\$3.50	FT	40	6/78
Yes	Dr's Clinic (Salem)	Med. Assistant	\$5.00	FT	38	6/78
Yes	Orthopedic Surgeon	Doctor's Assistant	--	FT	40	6/78
Yes	Family Clinic (Salem)	Med. Assistant	--	PT	16	--
No	State Builders Bd. (Salem)	Clerical Specialist	\$6.70	FT	40	8/78
Yes	Forest Grove Comm. Hosp.	Med. Records Transcriptionist	\$3.70	FT	40	6/78
9 Yes 2 No	--	--	\$3.99 (aver.)	9 FT 2 PT		7/78 (aver.)

Most of the eleven Medical Assisting graduates were either employment at the time of the survey (May, 1978) or were to start employment within one month of their graduation. Of the 11 graduates, nine were employed in positions directly related to their Medical Assisting training. Nine of the 11 graduates were either employed full-time or preparing to begin full-time work. For these nine graduates, six indicated their starting salaries, which resulted in an average of \$3.99 per hour for their work.

Employment Status Twelve of the 14 Medical Assisting graduates provided financial data on the approximate amount of money they earned in 1976-77, the year before they started studying full-time at Chemeketa Community College. The estimates from the 12 graduates ranged from \$900 to \$6,600, with an average of \$4,916 for the 12 graduates. The Medical Assisting graduates were asked to state approximately how much money they earned during 1978 while attending Chemeketa. Four graduates replied to this question, and gave a range \$400 to \$9,193, yielding an average of \$3,498. Table 13 provides financial information regarding the source of funds for the 1978 Medical Assisting graduates.

TABLE 13. Principal Source of Funds - Medical Assisting Graduates

Source	Number - Students	Average %
A. Parents	7	70
B. Personal Earnings	8	28
C. Agency Assistance (i.e., CETA, DVR, Welfare)	1	70
D. Financial Aid (i.e., work study, scholarships, loans)	5	47
E. Spouse	2	90
F. G.I. Bill	1	100
G. Other (Social Security, grant)	1	50

All 14 of the Medical Assisting graduates provided information on the source of their funds for education during 1978. These estimates suggest that a majority of the graduates financed their training with parental income or personal earnings, and several (five) obtained financial aid.

Thirteen of the 14 Medical Assisting graduates indicated the approximate costs over and beyond their usual expenses to attend Chemeketa during 1977-78. Their estimates ranged from \$25 to \$750, leading to

an average of \$309 for the 13 graduates.

Seven of the 14 graduates supplied financial estimates of foregone earnings during 1977-78. The estimates ranged from \$1,500 to \$4,500, with an average of \$3,135 for the seven Medical Assisting students. Two of the 14 graduates paid out-of-district tuition for a total of five terms.

Non-Economic Benefits For the training the 14 graduates received, they were asked to indicate the most important and the second most important benefits. There are reported below:

Most Important Benefits "To learn procedures and skills." "Lab work and externship." "To learn a skill that I wouldn't have gotten any other way." "Being able to work in the medical field." "Learning to be a Medical Assistant." "Actual experience working with doctors." "I will get a certificate - whatever that's worth." "Having the security that I can work if something happened to my husband." "My experience and reaching my goal." "Increased knowledge."

Second Most Important Benefits "Wanted to be in medical profession." "Learning for own reasons about medicine." "To be able to hopefully get interesting, good job." "Getting a higher paying job." "Going back to school after working for two years and feeling like I wasn't forced to learn as in grade and high school." "Experiencing moving to a new town." "Chance to renew medical knowledge previously obtained." "Learned about politics." "Self accomplishment." "Job contacts." "Marketable skills and knowledge."

Nursing

Fifty-five persons completed requirements for either the ADN or PN programs during 1977-78. Of these graduates, 46 people completed the Follow-Up Questionnaire and returned it to the College.

Age Characteristics Table 14 describes the ages of the respondents at the time they entered their training and then at the time of their graduation.

TABLE 14. Age Characteristics, Nursing Graduates

Entrance Age	No. of Students	Graduation Age	No. of Students
17	1	19	1
18	3	20	2
19	8	21	6
20	4	22	6
21	3	23	4
22	3	24	3
23	2	25	1
24	1	26	2
25	1	27	1
26	2	28	2
27	2	29	1
28	3	30	3
29	2	31	2
30	1	32	1
31	2	32	3
32	1	34	1
34	1	36	1
36	1	38	1
38	1	40	1
41	1	44	1
47	1	49	2
48	1	55	1
53	1		
26 (aver.)	46	28 (aver.)	46

The average age of the 46 Nursing graduates when they entered the program was 26, with a range of ages from 17 to 53. Although the average age was 26, a majority of students at entrance to the program were in the early twenties.

Employment Status Table 15 presents summary information about the employment status of the 1978 nursing graduates.

TABLE 15. Employment Status, Nursing Graduates

Job Related to Training	Name/Address Employer	Job Title	Salary (hr.)	FT/PT	Hrs. Work (Week)	Starting Date
Yes	Salem Memorial Hospital	LPN II	\$4.85	PT	18	7/78
Yes	Salem General Hospital	LPN	\$4.40	PT	8	-
Yes	Salem General Hospital	LPN	\$4.03	PT	8	-
Yes	Salem General Hospital	LPN	\$4.13	PT	8	-
Yes	Salem Memorial Hospital	LPN	\$4.13	PT	-	-
Yes	Salem General Hospital	LPN	\$4.03	PT	16	-
Yes	Salem Memorial Hospital	Graduate Nurse	\$5.05	FT	-	7/78
Yes	St. Anthony's Hospital (Pendleton)	Graduate Nurse	\$6.13	FT	40	-
Yes	Good Samaritan Hospital (Corvallis)	Graduate Nurse	\$5.80	PT	24	-
Yes	Polk Community Hospital (Dallas)	Graduate Nurse	\$5.31	PT	16	-
Yes	Glisan Care Center (Portland)	Charge Nurse (LPN)	\$4.75	FT	46	-

TABLE 15. Employment Status, Nursing Graduates (continued)

Job Related to Training	Name/Address Employer	Job Title	Salary (hr.)	FT/PT	Hrs. Work (Week)	Starting Date
Yes	McMinnville Comm. Hospital	Graduate Nurse	\$6.49	PT	32	-
Yes	St. Timothy's (Salem)	LPN	\$4.00	PT	24	-
Yes	Cry of Love (Salem)	LPN	\$4.55	PT	12	-
Yes	U of O Health Science Center (Portland)	Graduate Nurse	\$6.74	FT	40	6/78
Yes	Dallas Rest Home	LPN	\$4.70	FT	-	6/78
Yes	Upjohn's (Salem)	LPN	\$4.50	PT	20	6/78
Yes	Oregon State Hospital	RN I	\$5.62	FT	40	-
Yes	Chemawa Health Clinic (Salem)	Relief	\$4.50	PT	-	-
Yes	Polk Community Hospital (Dallas)	Graduate Nurse	\$5.44	FT	32	8/78
Yes	French Prairie Nursing Hosp. (Woodburn)	RN	\$6.10	FT	36	7/78
Yes	Homemaker's Upjohn (Salem)	LPN	\$6.50	PT	15	6/78
Yes	Homemaker's Upjohn (Salem)	LPN	\$5.00	PT	19	6/78
Yes	Salem General Hospital	RN I	-	FT	40	7/78

TABLE 15. Employment Status, Nursing Graduates (continued)

Job Related to Training	Name/Address Employer	Job Title	Salary (hr.)	FT/PT	Hrs. Work (Week)	Starting Date
Yes	Salem Memorial Hospital	Staff I	-	FT	-	9/78
Yes	Marion Home (Sublimity)	RN	-	PT	24	8/78
Yes	Care Age House Nursing Center	LPN	\$4.00	PT	16	-
Yes	Willamette Ambulance	EMT	\$4.00	PT	8	-
Yes	Elderest Nursing Home	Charge Nurse	\$4.25	PT	18	-
Yes	Salem General Hospital	LPN	\$4.14	PT	16	-
Yes	Holy Rosary Hospital (Ontario, OR)	RN	\$6.85	FT	40	9/78
Yes	Salem General Hospital	Graduate Nurse	\$6.10	FT	40	-
Yes	Polk Community Hospital (Dallas)	LPN	\$4.89	PT	10	-
Yes	Salem Memorial Hospital	Graduate Nurse	\$5.05	FT	40	7/78
34	28 Employed within College District	-	\$4.70 (PT) \$5.54 (FT) (aver.)	21 PT 13 FT	17 hrs. (aver. for PT)	July (aver.)

Of the 46 Nursing graduates in 1978 who replied to the College's questionnaire, 34 persons indicated they are employed in positions directly related to their occupational training at Chemeketa. The 21 part-time persons earned an average of \$4.70 per hour, with full-time individuals (13 people) having a higher salary average -- \$5.54 per hour. Although most of the persons were working part-time, several

reported starting full-time, typically in July -- one month after graduation ceremonies. Perhaps, of significance, is the placement of 28 of the 34 graduates in jobs in the District.

Financial Characteristics The 1978 Nursing graduates were questioned about the approximate amount of money they earned in 1976-77, the year prior to them starting their full-time studies at Chemeketa Community College. Thirty-two people provided information, giving a range from \$700 to \$20,000, and an average for the group of \$5,310. For 1977-78, the last year of their occupational training, the Nursing graduates were asked to identify the approximate amount of money they earned while studying. Twenty-six graduates completed this item of the survey. For the 26 individuals, the estimates ranged from \$300 to \$10,000, with \$2,052 as an average.

Table 16 describes the principal sources of funds for the 1978 Nursing graduates.

TABLE 16. Principal Source Funds - Nursing Graduates

Source	Number - Students	Average %
A. Parents	12	50
B. Personal Earnings	29	39
C. Agency Assistance (i.e., CETA, DVR, Welfare)	10	60
D. Financial Aid (i.e., work study, scholarships, loans)	24	49
E. Spouse	14	60
F. G.I. Bill	1	5
G. Other (Social Security, grant)	4	51

Numerically, the 1978 Nursing graduates secured their funds from personal earnings and financial aid respectively. However, on a percentage perspective, agency assistance and spouse contributed significantly for financing the expenses of the nurses' training.

Thirty-eight graduates provided estimates of their expenses over and beyond usual costs to attend Chemeketa during 1977-78. These estimates ranged from \$100 to \$3,850 with an average of \$1,170 for the year.

Nineteen Nursing graduates supplied financial estimates of foregone earnings for 1978 while they were attending college. The 19 estimates ranged from \$700 to \$20,000 with an average of \$7,636 for the

group. Three of the 46 graduates paid the out-of district tuition rate for a total of seven quarters of study.

Non-Economic Benefits As part of the survey, the 1978 Nursing graduates were encouraged to indicate the primary and the secondary benefits of the training they received.

Most Important Benefits "I now have a better paying job." "Improvement in care I could give aid-nurse." "Graduating." "The learning experiences." "Always wanted to be an RN." "Education and licenses received." "Having professional training to enable me to work in a capacity I can appreciate." "Having a life-long, worthwhile job." "Becoming a nurse and its costs and time." "Training to get a job." "Becoming an RN." "A degree, better job, etc. - pay." "Qualification for employment." "Viewing different agencies." "Improve me personally." "Degree, better job, better wages." "Availability and cost of program." "The personal satisfaction to know I can be a nurse." "To earn a degree for a higher paying job." "Knowledge." "Graduation with career." "Helping profession that is marketable. Realization of a goal." "Got me started and made my dream of becoming a nurse come true." "Personal satisfaction." "Entering nursing career." "Becoming a nurse." "It accomplished my goal of wanting to be a nurse." "Reaching my personal goal." "Achieving a goal." "Personal satisfaction etc., self-improvement." "Fulfillment of a goal of 30 years." "I am now a graduate nurse." "Personal satisfaction in doing career I want to do." "Reaching goal of being a nurse." "Personal satisfaction of occupation." "I hope to meet more challenges as an RN." "Reaching a goal I wanted in life, a stimulating intellectual environment." "A satisfying job in many aspects." "Achieved position desired." "Money." "I now have a much sought after occupation." "College diploma." "Job opportunities." "Profession with good pay advancement."

Second Most Important Benefits "Financial security." "Will be making more money." "Better working conditions." "Profitable skills learned." "Good job." "Monetary reward." "Good and varied job opportunities." "The degree." "I enjoy all aspects of nursing." "I have a career." "Mobility." "Attaining the education." "I have job satisfaction." "Learned alot." "Living at home and attending school." "Personal satisfaction of being able to fulfill a life-time dream." "Knowing I'm intelligent enough to make it through school for an Associate Degree." "Applicable skill for employment." "Becoming closer to set goals." "Helping other people." "Service." "Acquisition of knowledge and skills." "I grew as a person." "Gaining knowledge to help me in life." "Continuing education." "Job security." "Financial." "Self satisfaction in profession." "To work at something I enjoy." "Give me an adequate job for support." "Chance for State Boards." "Personal benefit." "Financial security." "Personal gratification." "Achievement of goal." "Exposure to other areas of the hospital (OR, IV, etc.)."

Well-Drilling

Nine persons completed the requirements for the Associate of Science Degree in Well-Drilling in 1977-78. Eight of these graduates completed and returned their Follow-Up Questionnaire to the College.

Age Characteristics The ages of the eight students when they entered the Well-Drilling Curriculum ranged from 18 to 36, with an average of 26 for the eight Well-Drilling students.

Employment Status The 1978 Well-Drilling graduates were asked to provide information on their work situation. For those students who replied to the survey, summative data are presented in Table 17.

TABLE 17. Employment Status, Well-Drilling Graduates

Job Related to Training	Name/Address Employer	Job Title	Salary (hr.)	FT/PT	Hrs. Work (Week)	Starting Date
Yes	Drilling Specialties (Salem)	Driller	\$8.33	FT	60	-
Yes	Bakersfield Well & Pump Co. (Calif.)	Driller	\$5.00	FT	50	6/78
Yes	Layne Western (Mission, Kansas)	Jr. Field Supervisor	\$8.75	FT	40	6/78
Yes	Schoen's Well Drilling (Albany)	Driller	\$5.00	FT	40	6/78
Yes	S & M Well-Drilling (Canby)	Driller	\$5.00	FT	50	-

Eight of the nine Well-Drilling graduates replied to the employment part of the questionnaire. Of the eight, five of the graduates were employed in jobs directly related to their Chemeketa training; the other three persons were not employed at the time of the survey. For the five employed graduates, three indicated they would begin their jobs within one month of graduation; four of the five respondents secured employment outside of the State. The average salary for the

five graduates providing employment data came to \$6.42 per hour with all five working full-time.

Financial Characteristics Six of the eight graduates provided financial estimates of the approximate amount of money they earned in 1975-76, the year prior to their beginning full-time studying at Chemeketa. The 1975-76 average salary earned by the six graduates was \$12,601, where estimates ranged from \$9,000 to \$20,000 with \$9,000 as the most frequently indicated. Four of the eight graduates supplied estimates of money earned during the second year of their studying. For 1977-78, the four estimates ranged from \$600 to \$5,000 with an average of \$3,325. The graduates were also asked to indicate the principle source of their funds during 1977-78. This information is displayed in Table 18.

TABLE 18. Principle Source Funds - Well-Drilling Graduates

Source	Number - Students	Average %
A. Parents	3	66
B. Personal Earnings	4	45
C. Agency Assistance (i.e., CETA, DVR, Welfare)	3	42
D. Financial Aid (i.e., work study, scholarships, loans)	3	18
E. Spouse	2	26
F. G.I. Bill	2	45
G. Other (VA)	1	100

The 1978 graduates also provided estimates of how much it cost them over and beyond their usual expenses to attend Chemeketa during 1977-78. The estimates given by seven of the graduates ranged from \$800 to \$5,000 and averaged \$2,093 for the year. Three of the graduates indicated the amount of dollars lost while pursuing their studies. The amounts ranged from \$10,000 to \$30,000 with an average of \$18,333. One of the eight graduates paid the out-of-district tuition rate for one term of study, while the other seven persons paid the in-district tuition rate.

Non-Economic Benefits The 1978 graduates' comments regarding gains from their training are present below.

Most Important Benefits "Being exposed to different types of drilling." "Well-Drilling and Welding." "Drilling and contractor's license." "Knowledge." "Exposed to Well-Drilling." "A foot in the door of the grand water industry." "Well-Drilling," "Basic understanding of water wells."

Second Most Important Benefits "Unlimited opportunities available."
"Welding." "Money and work." "Accumulated reference material."
"Girls." "Education improvement." "Receiving a degree in Well-Drilling."

Summary

Of the 278 students who were enrolled in the nine programs, 92/ (or 33%) completed their program requirements in 1978. Another 56 students graduated in 1978; however, they had started their studies prior to the fall of 1976. Combining the replies from the two groups of graduates, 113 (or 76%) of the 148 graduates replied to the College's graduate survey.

The typical graduate of the Early Childhood Education Program is 24 years old, earned \$2,511 before studying, spent \$1,390 for unusual college expenses, received funds primarily from parents and financial aid, was employed within two months after graduation, lost about \$1,603 in earnings while attending Chemeketa, and received annual salary of \$6,394 after graduation.

For Computer Programming, the typical graduate is 33 years old, earned \$6,000 before studying, spent \$530 for unusual college expenses, relied on personal earnings and spouse for income, had a job at graduation, lost \$1,946 in earnings while attending Chemeketa, and was employed for \$9,228 after graduation.

The typical Fire Science graduate is 22 years old, earned \$5,579 before studying full-time, spent \$604 for unusual college costs, financed his(her) education primarily through personal earnings and the G.I. Bill, was on the job already, lost approximately \$5,263 in earnings while attending Chemeketa, and received a salary of \$11,892 in 1978.

In Forest Products, the typical grauate is 25 years old, earned a salary of \$4,416 before studying at Chemeketa, spent \$604 for unusual college expenses, financed his(her) education primarily with personal earnings, was already on the job, lost \$402 in earnings while studying, but received annual salary of \$8,218 following graduation.

The typical Forest Technology graduate is 25 years old, made \$7,700 before studying, spent \$896 for unusual school expenses, relied on personal earnings and the G.I. Bill, was on the job at the time of the survey, lost about \$1,985 in wages due to student status, and received approximately \$8,755 for 1978 employment.

Information from the Machine Shop graduates indicates the typical person is 31 years old, earned \$8,000 during 1975, spent \$550 for unusual college costs, was on the job at graduation time, funded his(her) education primarily with agency monies and financial aid, and earned about \$9,754 upon completion of the program in 1978.

In the Medical Assisting Program, the typical graduate is 23 years old, earned approximately \$4,916 before studying, spent around \$309 to meet unusual college expenses, was on the job at the time of the survey, financed his(her) education basically with parental income and financial aid, and earned \$7,661 after completing the one year certificate curriculum.

For the Nursing Program the typical graduate is 28 years old, earned about \$5,310 in 1975 before beginning full-time studies, was on the job at the time of the survey, financed his(her) education primarily with personal earnings and financial aid, lost about \$5,584 while devoting time to education, but upon graduation received approximately \$7,330 for an annual salary in 1978.

The typical Well-Drilling Program graduate is 28 years old, earned about \$9,000 in 1975 before beginning full-time studies, spent approximately \$2,093 for unusual educational expenses, was on the job at the time of the survey, financed his education mainly with personal earnings, gave up about \$5,842 while a student and was employed in 1978 for approximately \$11,849.

When the 1978 graduates were asked to state their primary and secondary non-economic benefits attributed to their training, overall they indicated much satisfaction with the education and the training opportunities at Chemeketa Community College.

III. LEAVERS' CHARACTERISTICS AND PERCEPTIONS

The second component of the College's cost-benefit model required obtaining information from the leavers of the nine occupational programs. Specifically, the College wanted to know from the leavers their:

- . educational objectives for enrolling at Chemeketa Community College
- . reasons for not continuing their program of study which started initially
- . attitudes toward their program experiences at the College's various student services; and,
- . the relationships of their education to their current employment and educational status.

For the purpose of this study and the cost-benefit model, a leaver is defined as a person who, based upon institutional records, did not complete all requirements of a particular program. As an example, an individual may have started studying in the Early Childhood Education Program in the fall of 1976, but did not complete the six term curriculum and graduate in the spring of 1976. A leaver is further defined as someone who is no longer enrolled in the program, but who may be pursuing another curriculum at Chemeketa, or has left the college. Table 19 identifies the number of people for each of the nine programs who started, left, and replied to the Leaver Questionnaire (please see Appendix D for a copy of the College's instrument).

TABLE 19. Summary Information - Leavers

Program	Number of People Who				% of People Who	
	* Started	** Left	Replied	*** Still Attend	Left	Replied
Early Childhood	44	32	4	4	73	13
Computer Prog.	22	19	3	-	86	16
Fire Science	30	15	5	1	50	17
Forest Products	5	3	-	2	60	-
Forest Tech.	21	13	-	7	62	-
Machine Shop	19	13	1	2	68	8
Medical Assist.	20	4	-	2	20	-
Nursing	104	48	10	9	46	21
Well Drilling	13	6	1	-	46	17
TOTALS	278	153	21	27	55	15

*the number of people who started the program in the fall of 1976, except for the Medical Assisting Program which is a one-year curriculum and leavers were tracked as of the fall quarter of 1975.

**the number of people who left the program and may have left the college or be enrolled in another major at Chemeketa; unable to account for six students.

***the number of people still attending Chemeketa and still enrolled in the program as of June, 1978.

The data presented in Table 19 suggests that slightly more than fifty percent (153 out of 278) of the students originally starting programs left their designated majors. However, 27 students of the 153 leavers are still attending Chemeketa, and making progress on their programs.

All of the 152 leavers were mailed questionnaires and for those students not responding a second form was sent after attempts to verify addresses. Securing completed questionnaires from leavers proved more difficult than in the case of obtaining graduate feedback because of the mobility of students and thus the change of their residencies. Twenty-one

(or 15%) of the 153 leavers did reply and since the response rate is small, the replies are grouped together rather than treated separately by program.

Educational Goals, Leavers The program leavers were asked to identify their objectives in attending Chemeketa Community College. Table 20 describes the leavers' objectives at the time they started their studies in the various programs.

TABLE 20. Educational Goals

Objectives*	No of Students	Percentage
to complete a degree or certificate leading directly to employment	18	72
to prepare for transfer to another college after completing a degree or certificate	3	12
to prepare for transfer to another college without completing a degree or certificate.	-	-
to take courses for job upgrading; may or may not complete a degree or certificate.	3	12
to take courses of interest to me; may or may not complete a degree or certificate.	1	4
TOTALS	25	100

*responses not mutually exclusive

It is probably significant that almost half of the respondents had course, transfer, or short-range objectives for their studies. And, too, although college records are not readily available, some of the 18 students who set degree or certificate goals are still pursuing them at Chemeketa.

Reasons for Leaving. Table 21 shows the various reasons the respondents gave for not re-enrolling in their programs.

TABLE 21. Reasons for Leaving

Reasons*	No. of Students	Percentage
completed needed courses	6	22
transportation problems	-	-
transferred, another college	1	4
found job related to courses	4	15
found job	-	-
conflicting job hours	2	7
financial reasons	3	11
change of residence	1	4
grade problems	-	-
dissatisfaction, instruction	4	15
dissatisfaction, course content	3	11
personal/family illness, injury	1	4
other personal family reasons	-	-
major not available, Chemeketa	-	-
unsure, educational goals	2	7
college studies time consuming	-	-
courses not available, convenient times	-	-

*responses not mutually exclusive

Although the number of responses from leavers is small, people appear to have left Chemeketa primarily for positive reasons--they completed needed courses and/or found employment related to the courses they took at Chemeketa. However, of the total leaver replies a certain number (7 replies) indicated dissatisfaction with the instructor and course content they experienced.

Attitude(s) Toward Chemeketa's Services Several questions were included on the Leaver Questionnaire to solicit comments about the experiences of the leavers and the effectiveness of the college services. Three of the 21 respondents indicated they were "very satisfied" with their educational experience at Chemeketa; 12 checked the "satisfied" category; two leavers checked "neutral" and six students circled "disappointed" or "very disappointed."

Table 22 shows the leavers replies for evaluating the college's various support services.

TABLE 22. Evaluation, College Services

Service(s)	Evaluation(s)				
	VS	S	D	VD	NUS
Admissions	1	19*	3	-	-
Counseling Center Ser.	3	12	2	-	7
Financial Aid	-	9	2	2	10
Registration	1	19	3	-	1
Placement	1	10	3	-	7
Day Care Services	1	1	-	-	20
Student Activities	3	6	-	2	12
Library Services	2	15	3	-	4
Veterans Services	-	6	-	-	15
Time of course offering	2	17	3	2	-
Variety of crs. ofrngs.	2	12	5	1	-
Tutorial & Study Skills Services	2	8	-	-	13
Career Info. Services	-	5	1	1	14
TOTALS	18	139	25	8	98

*the number of students

VS = very satisfied; S = satisfied; D = dissatisfied;
VD = very dissatisfied; NUS = never used services

Overall, the College's supporting services were perceived as satisfactory or very satisfactory with the highest satisfaction ratings given in the admissions and registration areas. Dissatisfaction appeared to be greatest, although the number of replies was few, in the areas of time the courses were available as well as the variety of course offerings. Leavers were also encouraged to identify the benefits they received from their courses or program work at Chemeketa. The most important benefits cited by the leavers included: "Employment," the "Geology" courses, "Expand my interest in knowledge in computers and business," "Learning to be responsible," "Being objective, observing and recording children in groups," "Counseling services," "Learned to be more discerning of courses and quality of instruction"

offered," "Prepared me to take the State Board Examination for registered nurses," "The practical experience as a firefighter," "Opened my world, expanded my knowledge and growth socially and mentally," "Was finding an occupation I enjoy," "Certificate gained enabled me to take State Boards," "The knowledge I learned through classes and bookwork," The Leaver Questionnaire also called for the students to state the second most important benefits accrued from their work. The secondary benefits included: "Appreciated the Welding class," "Enjoyed the time spent in class," "Adding knowledge to my career," "Understanding children as individuals," "Financial aid," "Increased knowledge," "The training as an EMT I," "To gain a profession for employment," and "Was finding a job I can earn good money with (higher wages)."

In another section of the questionnaire, 16 of the 21 leavers replying stated Chemeketa met their needs, with 11 of 19 respondents planning to return to the College in the near future. An additional question concerned how might the College help leavers in the future. Comments provided by the leavers were: "Examine quality of Data Processing programs," "Continue to expand the Emergency Medical field," "Take more interest in what's happening in the different programs, example: Associate Degree Nursing," and "Providing classes transferable to Bachelor of Science in Nursing."

Employment and Educational Status At the time of the survey (Summer, 1978), 15 of the 21 leavers were employed full-time and two persons were working part-time. Four of the 21 respondents were unemployed and seeking employment, while two individuals were continuing their education at a higher level of study. Thirteen of the 19 leavers responding stated the courses they took at Chemeketa were directly related to their current employment, with another individual indicating the course work was closely related. Only five leavers reported their course work as not being related to their occupation. The leavers were asked to indicate if they had been employed in an occupation related to the courses they completed at Chemeketa since they left the College. Eight of nine respondents stated they had not been employed in an occupation related to their courses. Perhaps, a clearer understanding of leavers' perceptions regarding use of courses is found in Table 23.

TABLE 23. Leavers' Use of Courses

Type of Help*	No. of Students	Percentage
Helped to obtain job	9	36
Helped job performance	6	24
Helped advance, present job	6	24
No help	4	16
TOTALS	25	100

*Responses not mutually exclusive

These replies indicate the courses taken by the leavers helped them to obtain employment, maintain their job performance, or increase their job mobility. Four of the leavers provided general comments about this question. The statements included: "Help to understand water well hydrology," "Gave me background material to use in teaching math. and personal finance," "Helped me be more patient, better listener," and "Learning proper education for children and interacting with them and the teachers."

The leavers were asked to rate the training they received at Chemeketa in relation to its usefulness in performing their work. Table 24 displays the results of this question by the leavers.

TABLE 24. Leavers' Rating of Training

Rating	No. of Students	Percentage
Very Good	3	16
Good	9	47
Neutral	2	11
Poor	4	21
Very Poor	1	5
TOTALS	19	100

Using these ratings supplied by the 19 leavers replying, both numerically and in terms of percentages, the leavers judged their training as good or very good for its application to their job performance.

In another section of the survey leavers were questioned about whether or not they would recommend the courses taken at Chemeketa to others employed in similar positions. Ten of 20 respondents claimed they would do so, with six undecided and four checking "no."

Of the 21 leavers, seven were employed in their occupational area prior to enrolling in their courses at Chemeketa. So, by inference it may be argued that the other 11 students did gain some employment advantage from course enrollments at the College.

Six of the 21 leaver respondents were enrolled at other educational institutions (Portland Community College, Brigham Young, University of Oregon (2), Eastern Oregon State College, and Rogue Community College). Four of the five reported no problems in transferring to

their next institution. Three leavers out of four replying had all credit hours accepted; one person lost 1-3 credit hours; another lost 7-12 credit hours. Table 25 summarizes the opinions of the leaver respondents on how well Chemeketa prepared them for continuing their education.

TABLE 25. Leavers' Attitude, Continuing Education Preparation

Opinion	No. of Students	Percentage
Very Good	1	17
Good	3	50
Neutral	1	17
Poor	-	-
Very Poor	1	17
TOTALS	6	101 (due to rounding)

For the six leavers who have registered at another college since their enrollment at Chemeketa, four of the individuals rated the College's preparation for continuing education (sometimes termed transfer) as good or very good.

General Comments Beyond the questions, the leavers were encouraged to make any general statements reflective of their Chemeketa experience and to offer any suggestions for improved functioning of the College. These comments appear as submitted by the leavers, but the concerns might be best judged in terms of any changes made at the College subsequent to the departure of the individual. The comments indicate: "I am now in training as a Paramedic. Without the classes from Chemeketa Community College I would not have been accepted." "Outside projects in metal shop should be allowed in shop as a substitute for required learning function." "It would be nice to take a course any semester. This (variety of class offerings) has to do mostly with closed fields where the classes are already picked out. Some I could do without. Some I would like to have added," "I would like to see an up-to-date easier to read print-out on job availability," "I attend(ed) winter 1978 - to this date despite numerous and I mean numerous attempts to obtain a grade notice - I still have not. I did finally receive (in 6-78) a transcript change notice showing I was not previously on Master Files - which I am unaware as to why. I enrolled properly - paid, etc., which registrar stated was correct. I've given up on receiving a formal grade notice," "Library was extremely noisy, books

were missing, courses in Data Processing were not related to 'real world,' instructors were extremely poor," "Advanced courses in my area of interest (Computer Programming) that I had not already taken were not offered," "Student activity center is or was very inadequate. The eating center was (Skillet) poorly geared for social gathering place. But I have not been there for about 2 years and I have no idea about what its like now," "For me, the learning experience was great. Found each subject interesting and amazed to realize there was so much to learn," "Library services were poor (not because of library staff) but because Nursing faculty did not supply library with book list prior to start of school and also listed required reading material which was not in the library collection. Also, too many film strips to view with insufficient number of viewers available," "Admissions - losing records, Registration - too time consuming and disorganized," The whole process of Financial Aid is too much of a hassel. It isn't so much your office, it's all of the red tape," "In Admissions I was told I didn't need to take Life Science because I took Biology and Chemistry. It turned out that I did need to take a Life Science because I needed Physics. When I discovered this I had already dropped Life Science and missed a week in class," "When registering for classes you had to do a lot of running around and not very many staff members knew what was going on." and another leaver noted, "Had to take lots of night classes because Nursing classes interferred and I had to miss general classes during the week because Nursing classes were at the same time. Not only made more work and things more difficult for me but also non-nursing instructors."

Summary

Of the 278 individuals who started the nine programs, the College was able to identify 153 (or 55%) persons who left the programs, may have the College, or be enrolled in another major at Chemeketa. Records were not readily available to locate six of the 278 starters, but the College did identify 27 people still attending Chemeketa and still enrolled in their initial major, as of June, 1978. Twenty-one (or 15%) of the 153 leavers answered the Leaver Questionnaire, providing the following information:

- . 18 (or 72%) of the 21 leavers checked to complete a certificate or degree as their reason for attending Chemeketa;
- . 6 (or 22%) of the 21 completed the courses they wanted, while another 4 (or 15%) of the 21 found jobs related to their courses;
- . overall, the leavers were satisfied with the various services (i.e., Admissions) of Chemeketa;
- . 13 of the 19 leavers replying indicated courses were directly related to their training, while 9 (or 36%) said courses helped them to obtain employment;
- . 12 (or 63%) of 19 leavers responding said training useful for performing their work;

10 (or 50%) of 20 respondents would recommend the courses they took at Chemeketa to others employed in similar positions; and,

6 of the 21 leavers were enrolled at other post-secondary institutions with 4 of the 6 (or 67%) rating their continuing education preparation at Chemeketa as good or very good.

The general comments given by the leavers identify some dissatisfactions with their experiences, but there are indications of satisfaction as well. The general comments are, perhaps, best interpreted in light of the time when they were applicable and the progress made since then.

IV. EMPLOYERS' ATTITUDES TOWARD GRADUATES

This section of the study reports attitudinal information from employers of Chemeketa's graduates (please see Appendix E for copy of employers' questionnaire). As Table 26 indicates, 113 (or 76 percent) of the 148 graduates of 1978 replied to the College's Graduate Follow-Up Survey. Fifty-seven (or 50 percent) of the respondents gave permission for the College to contact their employers.

TABLE 26. Summary Information-Employer Survey

Program	Number of People Who				% of People Who	
	Graduated	Replied	Gave Permission	Replied	Gave Permission	Replied
1. Early Childhood Ed.	21	17	5	4	29	80
2. Computer Prog.	7	5	5	5	100	100
3. Fire Science	18	7	7	5	100	71
4. Forest Prod.	2	2	-	-	-	-
5. Forest Tech.	15	8	6	6	100	100
6. Machine Shop	7	6	3	-	50	-
7. Medical Assist.	14	14	6	5	43	83
8. Nursing	55	46	21	11	46	52
9. Well Drilling	9	8	4	1	50	25
TOTAL	148	113	57	37	50	65

After an initial mailing to the 57 employers, a second mailing to non-responding employers, plus a third attempt using the telephone. Thirty-seven (or 65 percent) of the employers returned their questionnaires. The summarized information is presented next, organized by the particular program area, as shown on Table 26.

Early Childhood Education Four of the five Early Childhood Education supervisors provided evaluative comments about the Early Childhood Education graduates they employ. The general type assessment of the graduates is presented in Table 27 below:

TABLE 27. General Assessment of Early Childhood Education Graduates by Employers

Skill Area	Has all Skills Needed 5	Has Many Skills Needed 4	Has Few Skills Needed 3	Has None of Skills Needed 2	Not Able To Rate 1
Math Skills	*2	1			
Technical	2	1			
Communication	2	1			
Reading	3				
Writing	3				
Speaking	3				
Work Quality	2	1			
Relations with other Employees	2	1			

*Indicates the number of graduates given this rating by their employers.

	Very High Productivity 3	Good Productivity 2	Low Productivity 1
Work Quantity	2		1

The specific questions asked of the Early Childhood Education employer are given below, along with their evaluations and comments.

1. In comparison with others in the same work group, how would you rate the employee's overall performance.
In the top $\frac{1}{2}$ *3 In the top $\frac{1}{4}$ In the bottom $\frac{1}{2}$
In the bottom $\frac{1}{4}$.
2. What was the source that assisted you in hiring this employee?
Private/State Employment Agency Faculty Member
College Placement Other: "Person applied for position",
"Hired by previous Director", "Personal reference".
3. Did the individual(s) you employed demonstrate a basic understanding of the Early Childhood Education field?
Yes No Comments: "Has a very strong theoretical as well as practical grasp of Early Childhood Education", "We had a bad lack of communication with last year's director so employee couldn't work up to her full potential".
4. Were there areas in which the individual required more training?
Yes 1 No 2 Comments: "This was her first job outside of the controlled Center", "First year jitter's are normal until you get the feel of all your schooling into a workable pattern", "The individual has performed her job with skill and competence".
5. Starting salary for your employee(s) is \$269 per month.
(This \$269. is an average of the 3 responses)
6. Do you solicit opinions/suggestions from your employee(s) and are they implemented into your program?
Yes 3 No Comments: "The staff works as a team and this employee as well as others' opinions/suggestions are sought and emphasized", "We support each other and are open to all new methods".
7. Did you ask Chemeketa Early Childhood Education staff for recommendations before hiring your employee?
Yes 2 No 1 Comments: "I believe she was brought to our attention by her pastor".
8. General Comments: "This employee had some difficulty adjusting to new conditions, but of lack of experience this is expected". "The employee demonstrated much strength and had been very well prepared for the position", "I feel we have an excellent school here".

*Indicates the number of graduates given this rating by their employers.

Computer Programming Table 28 describes the general assessment made by the employers of the five Computer Programming graduates of 1978.

**TABLE 28. General Assessment of
Computer Programming Graduates by Employers**

Skill Area	Has all Skills Needed 5	Has Many Skills Needed 4	Has Few Skills Needed 3	Has None of Skills Needed 2	Not Able To Rate 1
Math Skills	*2	2			
Technical		3	1		
Communication	3	1			
Reading	3	1			
Writing	3	1			
Speaking	2	2			
Work Quality	2	1	1		
Relations with other Employees	2	2			

*Indicates the number of graduates given this rating by their employers.

	Very High Productivity	Good Productivity	Low Productivity
Work Quantity	1	3	

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The specific questions asked of the Computer Programming employer are given below, along with their evaluations and comments.

1. In comparison with others in the same work group, how would you rate the employee's overall performance.
 In the top $\frac{1}{4}$ *3 In the top $\frac{1}{2}$ In the bottom $\frac{1}{2}$ 1
 In the bottom $\frac{1}{4}$.
2. What was the source that assisted you in hiring this employee?
 Private/State Employment Agency Faculty Member
 College Placement 3 Other: "Have known employee for 10 years as a co-worker".
3. Does the employee have adequate knowledge of:
 - a. system hardware concepts Yes 4 No
 - b. system software concepts Yes 4 No
4. Does the employee have necessary knowledge of job control language relevant to the machine used in your shop? Yes 3 No
5. Does the employee have working knowledge of the language used in your shop, i.e., COBOL, FORTRAN, RPG, or other? Yes 2 No
6. Related to the use of the language, does the employee have adequate knowledge of:

a. program control breaks	Yes <u>4</u>	No <u> </u>
b. indexing or subscripting tables	Yes <u>4</u>	No <u> </u>
c. modular programming techniques	Yes <u>4</u>	No <u> </u>
d. subroutine programming	Yes <u>2</u>	No <u>1</u>
e. access methods for sequential file handling	Yes <u>3</u>	No <u>1</u>
f. access for direct or index file handling	Yes <u>2</u>	No <u>2</u>
g. for debugging at the source level	Yes <u>3</u>	No <u>1</u>
h. for debugging at the dump level	Yes <u>2</u>	No <u>1</u>
7. Does the employee have adequate knowledge of documentation techniques at:

a. the program level	Yes <u>4</u>	No <u> </u>
b. the systems level	Yes <u>3</u>	No <u>1</u>
c. the user's level	Yes <u>2</u>	No <u>1</u>
d. operation run level	Yes <u>3</u>	No <u>1</u>

*Indicates the number of graduates given this rating by their employers.

8. Does your employee have adequate knowledge of system design concepts and systems flow charting for performance of his/her job?
Yes 3 No 1
9. Does your employee have adequate knowledge of:
a. card format design Yes 4 No
b. printed report design Yes 4 No
c. disk or tape record layout design Yes 4 No
10. Does your employee have satisfactory accounting knowledge?
Yes 4 No
11. Does the employee have more accounting background than necessary for performance of job? Yes 1 No 4
12. Is cost accounting necessary for the performance of the employee's job? Yes 1 No 3
13. Is managerial accounting necessary for the performance of the employee's job? Necessary 1 Desired 3 Not Needed
14. Does your employee have adequate knowledge of on-line programming?
 Necessary 2 Desired 1 Not Needed (No = 1)
15. Does your employee have adequate knowledge in operating the computer?
1 Necessary 2 Desired Not Needed (Yes = 1)
16. Comments: "Employee had superficial knowledge of debugging programs by examining input and output results, determining fields affected and tracing suspect code areas... Not able to work without constant supervision. Very good productivity when assigned "Gopher" jobs that did not require abstract thinking", "I feel that employee's involvement with us as a Cooperative Work Experience student prior to hiring him was a definite asset to us, and also an advantage to him", "Employee worked here full time three months in 1977 through Cooperative Work Experience. Many skills were gained through CWE".

Fire Science The specific questions asked of seven Fire Science employers are given below, with evaluations and comments from five employers.

1. Does the employee have a good overview of the Fire Protection career? Yes 5 No

Comments: "Employee seems to understand the fire service and the opportunities of a fire service career", "Has problems sometimes understanding the bucket process", "Employee had served this department as a second generation volunteer, leading to his interest."

2. Does the employee show a positive attitude and influence?

Yes 5 No

Comments: "Employee shows a genuine interest in his work", "Very good".

3. Is the employee motivated to reduce the fire problem as a public service? Yes 4 No 1

Comments: "Employee has a personal interest in helping people, especially the CPR and First Aid programs. He shows an interest in all programs that can help himself and the fire service", "He is aware of fire problem but whether or not he's motivated to reduce is unknown", "At this time the employee shows an interest, time will tell", "Not highly motivated toward the public service aspect of the job", "Shows interest in fire prevention field. This position allows him to pursue his interest in fire prevention and still participate in the glory of fire suppression."

Specific Job Performance Rating Code:

- 5.....Consistently exceeds performance requirements
- 4.....Often exceeds performance requirements
- 3.....Meets performance requirements
- 2.....Almost always meets performance requirements
- 1.....Usually fails to meet performance requirements
- X.....Not observed

A. Fire Suppression

1. STATION WORK

- 5(3.6)* Observance of Working Hours
- 3.8 Cooperation and Team Work
- 3.6 Maintenance of Quarters
- 3.2 Maintenance of Apparatus & Equipment
- 3 Maintenance of Reports & Records

Comments: "A good worker who isn't afraid to do extra work on his own".

2. BASIC SKILLS

- 5(4.8) Knowledge of Basic Skills
- 3.6 Application of Standard Technique
- 3.4 Care and Use of Tools & Apparatus
- 3.8 Mental Alertness
- 3.8 Cooperation and Teamwork
- 4(2.6) Observation of Safety Principles

*Five employers ranked the five graduates resulting in an average of 3.6.

Comments: "Has the ability and initiative to do a good job".

3. EMERGENCY WORK

- 5(3.6) *Adjustment to Situation*
- 3.6 *Response to Orders*
- 3.6 *Application of Standard Technique*
- 3.8 *Cooperation & Teamwork*
- 3.4 *Observance of Safety Techniques*

Comments: "Does his work with a minimum of extra instruction. He understands and adapts well".

4. PUBLIC RELATIONS

- 5(3.4) *Meeting & Handling Public*
- 3.2 *General Conduct*
- 3.4 *General Attitude*

Comments: "Enjoys working with the public".

5. PHYSICAL CONDITION

- 5(3.8) *General Appearance*
- 3.6 *Endurance*
- 3.8 *Agility*

Comments: "Slightly Obese", "Keeps a neat appearance and works to stay Physically fit".

6. SUPERVISORY ABILITY

- 4(3.3) *Planning & Assisting*
- 4(3.5) *Training & Instructing*
- 3(3) *Disciplinary Control*
- 3(3.3) *Evaluating Performance*
- 4(3.3) *Leadership*
- 4(3.3) *Making Decisions*
- 4(3.8) *Approachability*

Comments: "Hasn't acted in supervisory capacity, but shows interest and ability to do so".

B. FIRE PREVENTION

1. INSPECTION

4(3.3) Application of Codes

3.3 Thoroughness of Inspection

3 Preparation of Reports

2. PUBLIC EDUCATION

4(3.8) Knowledge of Subject

Deficiencies: "Practical knowledge which comes with experience"; "Due to probationary period of one year, have not really had a chance to observe any deficiencies, if there are any".

4(3.5) Public Speaking Ability

2(3.5) Planning & Development Programs

Comments: "Employee has done well in public education classes in CPR".

Forest Technology Table 29 describes the general assessment made by the employers of the six Forest Technology graduates of 1978.

TABLE 29. General Assessment of Forest Technology Graduates by Employers

Skill Area	Has All Skills Needed 5	Has Many Skills Needed 4	Has Few Skills Needed 3	Has None Skills Needed 2	Not Able To Rate 1
Math Skills	*1	2	1		2
Technical	2	4			
Communication	3	3			1
Reading	3	1	1		1
Writing	2	2	1		
Speaking	2	4			
Work Quality	4	2			
Relations with other Employees	4	2			

*Indicates the number of graduates given this rating by their employers.

	Very High Productivity 3	Good Productivity 2	Low Productivity 1
Work Quantity	3	3	

The specific questions asked of the Forest Technology employer are given below, along with their evaluations and comments.

1. In comparison with others in the same work group, how would you rate the employee's overall performance.

In the top $\frac{1}{4}$ *4 In the top $\frac{1}{2}$ 1 In the bottom $\frac{1}{2}$
In the bottom $\frac{1}{4}$ 1.

2. What was the source that assisted you in hiring this employee?

Private/State Employment Agency 1 Faculty Member
College Placement 3 Other: High School reference

3. Does the employee have a working knowledge of the safety practices which should be followed? Yes 6 No

Comments: "This employee has not had an accident in the past three seasons", "Employee is fairly safety oriented", "Excellent attitude towards safety".

4. Is the employee able to properly use the equipment for:

a. Fire Fighting Yes 6 No

b. Surveying Yes 3 No 1 Comments: "Not used"

c. Forest Mensuration:

(1) Cruising Yes 3 No Comments: "Catches on fast", N/A

(2) Scaling Yes 1 No Comments: "No experience", N/A

(3) Marking Yes 4 No Comments: "Very good", N/A

d. Other kinds of forest activities? Yes 5 No

Comments: "Recreation-Parks", "Employee is pretty adaptable to most work situations", "Employee did a good job on everything he was assigned to", "Sales Recon-Sale layout, map and exhibit preparation", "Reforestation-tree planting inspection".

5. Does the employee have the skills to perform the required field work in the above area(s)? Yes 6 No

Comments: "He has basic skills, but needs more experience", "He did a good job on everything he was assigned to", "Only in Engineering, Surveying, and Recreation", "Some workshops planned".

6. Does the employee have the skills to read maps and/or aerial photos for determining field locations? Yes 6 No

Comments: "Has had little experience in maps and photos", "He is still learning in this area".

7. Is the employee's attitude toward his work positive? Yes 5 No

Comments: "Especially after he came to work for me in timber", "Excellent attitude toward work".

*Indicates the number of graduates given this rating by their employer.

8. **General Comments:** "Very dependable, takes high interest in his work", "A very good BLM employee during the three summers. Had no reservations about hiring him on a permanent status", "He has recently been hired on a WAE position with the District Timber Department. He is now part of our full time work force and is progressing quite well as a career conditional employee", "He is a good employee and I would recommend him for a job with the Forest Service anytime", "He is a good hand. He just recently was given a permanent position being selected from a long list of applicants", "This employee, like others who came to me from Chemeketa, came well qualified".

Medical Assisting Table 30 describes the general assessment made by five of the six employers of the six medical assistant graduates of 1978.

TABLE 30. General Assessment of
Medical Assisting Graduates by Employers

Skill Area	Has All Skills Needed 5	Has Many Skills Needed 4	Has Few Skills Needed 3	Has None of Skills Needed 2	Not Able To Rate 1
Math Skills	*1	2			
Technical	1	3	1		
Communication	1	3	1		
Reading	1	3			
Writing	1	2	1		
Speaking	1	2	2		
Work Quality	1	1	3		
Relations with others Employees	1	2	2		

*Indicates the number of graduates given this rating by their employer.

	Very High Productivity	Good Productivity	Low Productivity
Work Quantity		4	1

The specific questions asked of the Medical Assisting employer are given below, along with their evaluations and comments.

1. In comparison with others in the same work group, how would you rate the employee's overall performance.

In the top $\frac{1}{4}$ *1 In the top $\frac{1}{2}$ 2 In the bottom $\frac{1}{4}$ 1
In the bottom $\frac{1}{2}$ 1.

2. What was the source that assisted you in hiring this employee?

Private/State Employment _____ Agency _____ Faculty Member _____
College Placement 2 Other: "I requested to have this employee as an extern", "Person was a student here", "She was our student and hired her when an opening developed".

3. As an employer, did you understand that the graduate was coming to you equipped with entry field skills? Yes 3 No 2

Comments: "Minimum skills exhibited - requires on job to be proficient. This not fault of training or student".

4. Were you satisfied with the diversity of entry level skills?

Yes 4 No 1

With the depth of those skills? Yes 3 No 2

Comments: "Being a conscientious person, she made sure to learn any skill necessary that she didn't have", "She had very few of the skills which she was supposed to have learned. I also was under the impression that she graduated, but had not", "Skills exhibited are consistent with training. Would not know how to improve the program since all offices are not operated the same way. For instance, only R.N.'s are allowed to give injections in our office".

5. Was the professionalism exhibited by the graduate satisfactory with regard to:

a. the medical community? Yes 3 No 2

b. the office staff? Yes 2 No 3

c. the patient clientele? Yes 2 No 3

Comments: "She carried rumors between our staff. She did not instill confidence in the mass", "Need to stress Physician/Medical Assistant teamwork concept", "Considerable training on the job necessary to bring students to par in above areas".

6. Do you find the graduate's understanding of confidentiality, the doctor-patient relationship and other legal and ethical subjects satisfactory? Yes 6 No _____

7. Have you ever had a Medical Assisting student in your office from practical experience during his/her training? Yes 3 No 1

*Indicates the number of graduates given this rating by their employer.

7. (continued)

Do you wish to be contacted regarding such a placement in the future?

Yes 4 No 1

Comments: "I have not found it satisfactory", "We usually take a student each year".

8. General Comments: "Student felt capable and competent. Students and faculty should consider sterile technique and drug reactions when teaching, and only highly trained personnel should do what students consider as routine in many cases. Again all offices are different."

Nursing Education Table 31 describes the general assessment made by 11 employers of the 21 Nursing Education graduates of 1978 who gave employer permission to furnish evaluations to the College.

TABLE 31. General Assessment of
Nursing Education Graduates by Employers

Skill Area	Has All Skills Needed 5	Has Many Skills Needed 4	Has Few Skills Needed 3	Has None of Skills Needed 2	Not Able To Rate 1
Math Skills	4	3			
Technical	6	5			
Communication	7	2	2		
Reading	7	2			
Writing	8	2			
Speaking	8	2			
Work Quality	8	3			
Relations with other Employees	7	4			

*Indicates the number of graduates given this rating by their employers.

	Very High Productivity 3	Good Productivity 2	Low Productivity 1
Work Quantity	6	4	

The specific questions asked of the Nursing Education employer are given below, along with their evaluations and comments.

1. In comparison with others in the same work group, how would you rate the employee's overall performance.
In the top $\frac{1}{2}$ *6 In the top $\frac{1}{4}$ 5 In the bottom $\frac{1}{2}$ _____
In the bottom $\frac{1}{4}$ _____.
2. What was the source that assisted you in hiring this employee?
Private/State Employment 1 Agency _____ Faculty Member _____
College Placement _____ Other: "I knew her as an LPN and watched her progress during nurses training", "Ex-volunteer", "We hire many Chemeketa graduates if we can provide them with adequate supervision", "School-mates or herself", "Herself", "Former employee".
3. Does the employee understand the basic concepts of medical and surgical asepsis? Yes 11 No _____
4. Does employee have understanding of safety practices which should be followed? Yes 10 No _____
5. Does employee consistently give intelligent total patient care with attention to individual needs? Yes 10 No _____
6. Does employee organize well and carry out assignments easily with attention to priorities? Yes 10 No _____
7. Is employee always thorough and competent in implementing nursing care, and in recognizing principles underlying procedures?
Yes 11 No _____ Comments: "Within limits of our setting".
8. Does employee recognize own limitations and seek assistance when needed? Yes 11 No _____ Comments: "Very much so, never oversteps qualifications".
9. Does employee make pertinent observations in a manner that is concise, informative legible and consistently well done?
Yes 11 No _____
10. Does employee utilize and care for equipment including patients personal items? Yes 10 No _____ Comments: "No knowledge", N/A.
11. Does employee apply theory to practice in setting priorities and make good decisions based on alternatives available? Yes 11 No _____
Comments: "I feel that she does".
12. Does employee have good interpersonal relationships with staff, patients and peers? Yes 11 No _____

*Indicates the number of graduates given this rating by their employer.

13. Is employee able to accept constructive criticism and profit by it? Yes 9 No Comments: "Fair", "Have not placed her on any case where we have felt need to criticise", "There was no need for criticism".
14. Is employee reliable and resourceful and carry out delegated delegated responsibilities to completion? Yes 11 No
15. Is the employee prompt with treatments and nursing care and reports to work on time? Yes 11 No
16. Is the employee always neat, clean and well groomed? Yes 11 No

Well Drilling Table 32 describes the general assessment made by one employer of the four Well Drilling Graduates of 1978 who gave permission to their employers.

TABLE 32. General Assessment of Well Drilling Graduates by Employers

Skill Area	Has All Skills Needed 5	Has Many Skills Needed 4	Has Few Skills Needed 3	Has None of Skills Needed 2	Not Able To Rate 1
Math Skills		1			
Technical		1			
Communication	1				
Reading		1			
Writing		1			
Speaking		1			
Work Quality		1			
Relations with other Employees	1				

*Indicates the number of graduates given this rating by their employers.

	Very High Productivity 3	Good Productivity 2	Low Productivity 1
Work Quantity	1		

The specific questions asked of the Well Drilling employer are given below, along with their evaluation and comments.

1. In comparison with others in the same work group, how would you rate the employee's overall performance.
In the top $\frac{1}{4}$ *1 In the top $\frac{1}{2}$ _____ In the bottom $\frac{1}{2}$ _____
In the bottom $\frac{1}{4}$ _____
2. What was the source that assisted you in hiring this employee?
Private/State Employment _____ Agency _____ Faculty Member _____
College Placement _____ Other: "He is my son".
3. Does the employee have a working knowledge of the safety practices which should be followed? Yes 1 No _____
4. Does the employee have the skills to perform drilling operations with minimum supervision? Yes 1 No _____
5. Is the employee's attitude toward his craft positive?
Yes 1 No _____
6. Does the employer have the technical knowledge necessary to perform the required drilling operations? Yes 1 No _____
7. Does the employee lack any major skills or knowledge necessary to accomplish assigned tasks? Yes 1 No _____
Comments: "Will need at least five years in school of hard knocks".
8. General Comments: "Very pleased with my son's experience at Chemeketa. I hope that this program is continued in the future".

*Indicates the number of graduates given this rating by their employer.

Summary

Of the 113 graduates who answered the Graduate Follow-Up Questionnaire in the spring of 1978, 57 (or 50%) of them gave the College permission to contact their employers. Thirty-seven (or 65%) of the employers replied to the request for opinions of graduates' effectiveness.

Overall, the employers of the graduates rated the graduate's performance as excellent, as being productive, and having the common and specific skills critical to their success on the job.

V. ECONOMIC COSTS AND BENEFITS

The major objective of this section of the report is to review the nine selected occupational programs offered by Chemeketa Community College, and to establish some of the more critical economic costs and benefits of these programs in relation to the individual students who enrolled in the programs and to society in general. There are four parts to this report: the first one is a course matrix for the nine programs; the next component is economic costs followed by economic benefits and cost/benefit ratio data for each curriculum.

The economic costs to the individual student include tuition, fees, books, supplies, and any unusual expenses over and beyond their regular expenditures. An estimate of foregone earnings is also shown as an educational cost to the student. For society, the costs are the operational expenses of Chemeketa Community College, the loss of tax revenues, and the foregone productivity of the employee.

The economic benefits for the individual include increased earnings, while the benefits for society include additional tax revenues, and increased productivity to society.

The method used in this study is based on the work of Dr. Mehar Aurora, University of Wisconsin - Stout, as reported in the investigation by Arthur Weiner and Arthur Mason entitled Cost Benefit Studies (1974) at Moraine Park VTA District, Fond du Lac, Wisconsin. As with the Weiner and Mason study, modifications have been made to convert the method of Dr. Aurora's model to present resources and data available at Chemeketa Community College. The following outline, taken from the Weiner and Mason work (1974), includes Chemeketa modifications, and describes the method used to gather cost and benefit data.

Outline of Cost Benefit Method

- I. Develop a Course Matrix for the Program(s) Under Evaluation
 - A. Course number (all courses)
 - B. Course title
 - C. Instructor's name and annual salary
 1. name
 2. contract salary
 3. other payroll expenses
 - D. Number of students in the course
 - E. Course hours per week
 - F. Number of course hours per week taught by the instructor

- G. Instructor cost per course
- H. Instructor cost per student

II. Determine Economic Cost Input

- A. Instructor - establish the instructor salary cost for each course, with other payroll expenses for each instructor included. Divide this total cost by the number of students in the course.
- B. Student - the sum of the costs for tuition, fees, any unusual expenses such as travel and child care, plus books, supplies, and foregone earnings while attending Chemeketa Community College.
- C. Program - the sum of the costs for personnel other than instructional staff, materials and services, and capital outlay as found in the institution's operating budget document. Revenue as in the case of the Early Childhood Education Program has been subtracted from the costs of the program.
- D. Administration - the sum of the costs for Administrative Services, the Presidents Office, the office of the Dean of Instruction, and Student Personnel Services divided by the total number of college FTE's.

III. Determine Economic Benefit Input

- A. Increased earnings - use the average salary calculated for the graduates of the program as determined from the Graduate Follow-Up Survey minus the average earnings before the students entered the program.
- B. Tax revenue - use the 1976, 1977 tax tables to establish tax contributions to society, assuming graduate married with two dependents, filing a joint return.
- C. Increased productivity - assume it to be the same as Item A above, as a person is paid according to his(her) worth to or productivity in society.

IV. Develop a Cost Benefit Ratio Based on Economic Cost and Benefit Figures obtained.

COURSE MATRIX

The first step in evaluating the costs and benefits of each of the nine programs is to develop a course matrix for all the courses included in each program. This course matrix serves as an overview of the entire area of instruction under evaluation. The course matrix included the title of each course in the curriculum, the instructor for the course and his(her) annual salary, and the number of class hours (contact hours) for the course. The matrix also included the course number and course prefix, the number of annual contact hours taught by the instructor. These various pieces of information enables the computation of estimates of instructor cost per course and instructor cost per student.

The information presented in the course matrix was obtained from the quarterly faculty workload reports, class summary lists, class schedules, with salary data provided by the Personnel Office of Chemeketa Community College. Course title and prefix were taken from the College's catalogs. Where course and curriculum changes had been made subsequent to the publication of the catalog, verification of required course(s) was ascertained by program staff. For each instructor's salary during 1976-77, if the person was contracted full-time, 22% was added to allow for other payroll expenses. During 1977-78, 25% was added to the base salary of each instructor for other payroll expenses. Where more than one instructor taught the particular course, average instructor salary was figured with the appropriate percentage added for other payroll expenses. Where instructor(s) could not be identified for a course, notably an elective, the average instructor salary for the year was used plus adding other payroll expenses. For 1976-77, the average instructor salary of \$15,743. was used plus 22% for other payroll expenses. For 1977-78, the average salary of \$17,273. was used with the addition of 25% for other payroll expenses.

Class hours per week are contact hours. In the case of class enrollment where more than one section of the course was offered, the average class size of all sections was calculated and used. For elective courses, the average class size for all courses for the given year was computed from the Class Summary List for each academic quarter. Course sections without any students enrolled were subtracted from the total number of sections reported for the term before the number of sections was divided into the number of students enrolled in the day programs. Actual class size for 1976-77, 1977-78, per cluster or program area will vary from the average class size computed for this study. However, as an average indicator of class size for the College, it is the best estimate readily available.

For the purposes of this study, contact hours have been used consistently for all nine programs as the measure of hours taught by the instructor. The use of credit hours could result in different course and student costs; perhaps, on the increased cost side since

the hours influence cost as used in this method.

The following formulas were developed to determine the instructor cost per course and the instructor cost per student in the course.

$$\$C = \frac{I}{H} \times W$$

$$\text{and } \$S = \frac{\frac{I}{H} \times W}{N}$$

Where,

I = instructor's salary.

H = number of weekly course hours (contact hours) instructor taught during the academic year.

W = number of weekly course hours (contact hours) instructor taught in course X.

N = number of students (head count) enrolled in course X.

\$C = instructor cost for course X.

\$S = instructor cost per student, in the course.

COURSE MATRIX

for

Early Childhood Education

Computer Programming

Fire Science

Forest Products

Forest Technology

Machine Shop

Medical Assisting

Nursing

Well-Drilling

PROGRAMS

TABLE 33. EARLY CHILDHOOD EDUCATION CURRICULUM (1976-78)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No.-of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
7.119	1	Development in Childhood I	\$16,829 (1)	61	3	59 (2)	\$ 855.71	\$ 14.03
7.129	1	Intro. ECE	21,419	26	4	31	2,763.74	106.30
1.101 or WR 121	1	Comm. Skills Eng. Comp.	15,897	20	3	42 (3)	1,135.50	56.78
1.606 or PSY 201	1	Intro. Psych. Gen. Psych.	20,039	25	3	49	1,135.50	56.78
7.131	1	Obser./Guid. Behavior I	813	19	4	9	1,226.88	49.08
7.120	2	Development in Childhood II	16,829	46	3	70	721.24	15.68
7.137	2	Personal Dynamics	593	26	3	18	98.83	3.80
7.132	2	Obser./Guid. Behavior II	16,829	41	4	59	1,140.95	27.83
1.104 or WP 122	2	Comm. Skills Eng. Comp.	17,191	18	3	45	1,146.07	63.67

(1) Each FT salary for 1976-77 fiscal year includes 22% for other payroll expenses (Social Security, Retirement, State Accident Insurance, Insurance Package, Unemployment Reserves).

(2) Credit hours based on faculty workload reports and class summary data for 1976-77 for terms 1, 2 & 3. Same reserve documents used for terms, 4, 5 & 6 for 1977-78.

Average annual workload for all instructors, including part-time staff, who taught 1.101 communication skills; instructor's salary includes both 1.101 and WR 121.

TABLE 33. EARLY CHILDHOOD EDUCATION CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
PSY 199 or 1.608 or PSY 202	2	Psy. - H. Rel. Gen. Psy. Proc. - Living	\$18,395	18	3	49	\$1,126.22	\$ 62.57
7.115	3	Child Nutrition	21,419	41	4	31	2,763.74	67.41
HE 252	3	Special Studies First Aid	16,829	56	4	66	1,019.94	18.21
7.136	3	Creative Activities	16,829	41	4	59	1,140.95	27.83
7.134	3	Super. Field Exper. I	19,124	13	7	45	2,974.84	228.83
HE 250	3	P.E. Elective	18,829	39	3	56	1,008.70	25.86
--	3	Elective	19,206	13	3	66	873.00	67.15
7.117	4	Children's Lit.	18,920 (4)	21	3	43	1,320.00	62.86
7.123	4	Environments for Young Children	18,920	16	3	80	709.50	44.34

(4) Each FT salary includes 25% for other payroll expenses for 1977-78

TABLE 33. EARLY CHILDHOOD EDUCATION CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
7.127	4	Family Living Marriage	\$23,577	23	3	57	\$1,240.89	\$ 53.95
7.135	4	Super. Field Exp. II	19,595	8	10	50	3,919.00	489.88
--	4	Gen. Ed. Elective	21,591	15	3	66	981.41	65.43
7.125	5	Exceptional Child	18,105	17	3	45	1,207.00	71.00
7.130	5	Music Young Children	18,105	18	3	45	1,207.00	67.06
7.124	5	Learning Exp. Young Children	593	18	3	6	296.50	16.47
7.121	5	Directed Part. I	18,920	19	15	43	6,600.00	347.37
7.126	5	Family Community Rel.	593 (3)	15	3	6	296.50	19.77
7.113	6	Admin. Child Care Centers	593	15	3	6	296.50	19.77

(3) Each PT salary for 1977-78 includes 13% for other payroll expenses.

Table 33. EARLY CHILDHOOD EDUCATION CURRICULUM (1976-78)
(CONTINUED)

[illegible]

TOTAL,

\$47,333.35

84

TABLE 34. COMPUTER PROGRAMMING CURRICULUM (1976-68)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
1.101	1	Eng. Variable	\$14,092	17	3	41	\$1,031.12	\$ 60.65
4.200	1	Math Variable	16,112	16	4	59	1,092.33	68.27
6.923 BA 211	1	Fin. Accounting Gen. Accounting	19,973	27	4	46	1,736.78	64.33
6.940 BA 131	1	Intro. - D.P. Bus. Envir.	19,772	8	4	43	1,839.26	230.00
6.948	1	Fund. Comp. Prog.	10,512	29	2	17	1,236.71	42.65
1.104	2	Eng. Variable	14,990	18	3	43	1,045.81	58.10
6.924 BA212	2	Fin. Accounting Gen. Accounting	20,181	24	4	46	1,754.87	73.12
6.941	2	D.P. Math	23,933	27	3	55	1,305.44	48.35
6.956	2	Sys. 370 Concepts, Facilities	19,206	56	3	60	960.30	17.15

**TABLE 34. COMPUTER PROGRAMMING
(CONTINUED)**

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
6.961 BA 231	2	Bus. D.P. COBOL I	\$20,973	19	9	55	\$3,431.95	\$180.63
1.106	3	Eng. Variable	19,970	17	3	42	1,426.43	83.91
6.925 BA 213	3	M. Accounting Gen. Accounting	20,505	19	4	53	1,547.55	81.45
6.965	3	Utilities and Data Mgmt.	19,206	30	4	60	1,280.40	42.68
6.949	3	Sys. 370 DOS/VS Job Control	10,512	26	3	17	1,855.06	71.35
6.963	3	COBOL II	19,206	24	9	60	2,880.90	120.04
BA 206	4	Bus. Mgmt. Prin.	22,562	27	3	45	1,504.13	55.71
6.944	4	Intro. Sys. I Proc.	25,747	23	3	44	1,755.48	76.33

TABLE 35. FIRE PROTECTION CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
PE 190	5	Body Conditioning	\$20,981	13	3	18	\$3,496.83	\$268.99
--	5	Elective	21,591	16	6	34	3,810.18	238.14
1.106	6	Report Writing	20,461	28	3	47	1,306.02	46.64
--	6	Elective	21,591	15	12	35	7,402.63	493.51
PE 190	6	Body Conditioning	19,346	12	3	55	1,055.24	87.94

TOTAL,

\$75,623.27

TABLE 35. FIRE PROTECTION CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
5.135	4	EMT I	\$21,591	36	4	40	\$2,159.10	\$ 59.98
6.996	4	Fire Science	25,747	17	5	55	2,340.64	137.68
5.101	4	Fund. Fire Prev.	593	16	3	12	148.25	9.27
5.108	4	Hazardous Materials	26,422	21	3	9	8,807.33	419.40
--	4	Elective	21,591	22	3	41	1,579.83	71.81
PE 190	4	Body Conditioning	18,920	4	3	54	1,051.11	262.78
5.136	5	EMT I	21,591	25	4	40	2,159.10	86.36
5.109	5	Hazardous Materials	25,747	19	3	41	1,883.93	99.15
5.131	5	Building Cont.-Fire Supp.	26,422	19	3	9	8,807.33	463.54

TABLE 35. FIRE PROTECTION CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
5.104	2	Fire Service Hydraulics	\$24,522	27	5	53	\$2,313.40	\$ 85.68
5.123	2	Work Experience	21,488	23	9	65	2,975.26	129.36
PE 190	2	Fitness Appreciation	18,716	8	3	48	1,169.75	146.22
1.606	3	Intro. Psy.	23,933	26	3	40	1,794.98	69.04
6.995	3	Fire Science	24,522	20	5	52	2,357.88	117.89
5.105	3	Fire Pump Const./Oper.	24,522	23	4	53	1,850.72	80.47
5.120	3	Rescue and First Aid	6,649	7	3	65	306.88	43.84
5.124	3	Work Experience	18,539	7	9	61	2,735.26	390.75
PE 190	3	Fitness Appreciation	18,716	13	3	48	1,169.75	89.98

TABLE 35. FIRE PROTECTION CURRICULUM (1976-78)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
4.200	1	Mathematics	\$16,112	16	4	60	\$1,074.13	\$ 67.13
1.101	1	Comm. Skills II	14,092	17	3	41	1,031.12	60.65
5.100	1	Intro. Fire Prot.	21,488	29	3	65	991.75	34.20
5.122	1	Work Experience	21,488	28	9	65	2,975.26	106.26
PE 190	1	Fitness Appreciation	18,716	8	3	48	1,169.75	146.22
--	1	General Ed. Elective	19,206	14	3	66	873.00	62.36
4.202	2	Mathematics	21,380	16	4	60	1,425.33	89.08
1.104	2	Comm. Skills II	18,020	18	3	45	1,201.33	66.74
5.103	2	Elem. Sci. Firefighters	22,002	12	5	50	2,200.20	183.35

**TABLE 34. COMPUTER PROGRAMMING
(CONTINUED)**

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
6.971	5	OS/VS Concepts	\$22,041	18	3	32	\$2,066.34	\$114.80
2.687	5	C.W.E.	17,836	9	9	1287	124.73	13.86
6.945	6	Sys. Analysis	25,747	20	3	44	1,755.48	87.77
--	6	Soc. Sci. Elective	21,591	12	3	66	981.41	81.78
CS 213	6	Bus. Elective	22,153	7	3	32	2,076.84	296.69
2.687	6	C.W.E.	17,836	9	9	1287	124.73	13.86
2.688	6	C.W.E.	17,836	4	13	1287	180.16	45.04

TOTAL,

\$64,232.77

**TABLE 34. COMPUTER PROGRAMMING
(CONTINUED)**

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
6.969	4	Assembler I	\$23,577	19	9	18	\$11,788.50	\$620.45
6.979	4	Bus. Elective	10,055	12	3	19	1,587.63	132.30
--	4	Gen. Ed. Elective	21,591	15	3	66	981.41	65.43
2.687	4	C.W.E.	16,123	4	9	1287	112.75	28.19
2.688	4	C.W.E.	18,822	3	13	1287	190.12	63.37
EC 201	5	Prin. Econ.	21,591	25	3	40	1,619.33	64.77
6.976	5	Data Comm.	25,747	19	2	44	1,170.32	61.60
6.964	5	COBOL III	23,577	9	9	18	11,788.50	1,309.83

TABLE 36. FOREST PRODUCTS TECHNOLOGY CURRICULUM (1976-78)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
3.600	1	General Forestry	\$29,963	32	3	6	\$14,981.50	\$468.17
1.101	1	Comm. Skills	14,092	17	3	41	1,031.12	60.65
4.101	1	Drafting	22,933	19	4	46	1,994.17	104.96
4.202	1	Mathematics	23,933	14	4	56	1,709.50	122.11
6.101	1	Plane Surveying	21,917	13	8	51	3,437.97	264.46
6.137	1	Slide Rule Oper.	19,752	21	2	68	580.94	27.66
3.605	1	Tools and Equip.	20,973	27	3	41	1,534.61	56.84
6.192	1	Intro. Eng. 1 Calc.	22,173	16	2	55	806.29	50.39
1.104	2	Comm. Skills	18,379	23	3	45	1,225.27	53.27

TABLE 36. FOREST PRODUCTS TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
4.135	2	Project Graphics	\$20,760	11	4	60	\$1,384.00	\$125.82
4.204	2	Mathematics	17,587	11	4	60	1,172.47	106.59
6.103	2	Plane Surveying	21,917	13	8	59	2,971.80	228.60
3.610	2	Tree Ident.	20,973	61	3	41	1,534.61	25.16
4.280	2	Forest Products	21,917	22	6	64	2,054.72	93.40
1.106	3	Report Writing	16,167	18	3	45	1,077.80	59.88
6.300	3	Forest Mensuration	21,917	17	7	51	3,751.49	220.68
3.611	3	Tree Identification	20,973	25	3	41	1,534.61	61.38
4.190	3	Acc. Prev./First Aid	20,973	2	3	41	1,534.61	767.30

TABLE 36: FOREST PRODUCTS TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
6.275	3	Intro. Chemistry	\$23,933	17	5	52	\$2,301.25	\$135.37
--	3	Elective	19,206	13	3	60	960.30	73.87
4.281	4	Pulp and Paper Tech.	25,747	7	6	54	2,860.78	408.68
6.285	4	Plywood Composite and L. Wood Products	25,747	9	5	54	2,383.98	264.89
4.302	4	Practical Physics	25,747	18	5	55	2,340.64	130.04
6.275	4	Intro. Chemistry	23,577	44	5	41	2,875.24	65.35
1.606	4	Intro. Psych.	23,171	32	3	48	1,448.19	45.26
BA 229	4	Consumer Finance	21,591	10	3	40	1,619.33	161.93
6.280	5	Wood Struct. Ident.	24,638	15	7	63	2,737.56	182.51

TABLE 36. FOREST PRODUCTS TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of S. Taught by Instructor	Instructor Cost	
							Course	Student
6.279	5	Wood Adhesives and Coating	\$25,747	4	6	54	\$2,860.78	\$715.19
6.282	5	Wood Pres. Drying	25,747	10	6	54	2,860.78	286.08
4.286	5	Wood Ind. Econ.	25,747	13	3	54	1,430.39	110.03
--	5	Elective	21,591	14	3	60	1,079.55	77.11
3.601	5	Seminar	24,638	17	1	63	391.08	23.00
3.614	6	Wood Prod. Mark.	25,747	10	4	54	1,907.19	190.72
4.282	6	Logging and Milling	24,638	5	8	63	3,128.64	625.73
4.287	6	Methods- Supervision	24,638	20	3	63	1,173.24	58.66
6.281	6	Bldg. Materials	25,747	10	5	54	2,383.99	238.40

TABLE 36. FOREST PRODUCTS TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
6.279	5	Wood Adhesives and Coatings	\$25,747	4	6	54	\$2,860.78	\$715.19
6.282	5	Wood Pres. Drying	25,747	10	6	54	2,860.78	286.08
4.286	5	Wood Ind. Econ.	25,747	13	3	54	1,430.39	110.03
--	5	Elective	21,591	14	3	60	1,079.55	77.11
3.601	5	Seminar	24,638	17	1	63	391.08	23.00
3.614	6	Wood Prod. Mark	25,747	10	4	54	1,907.19	190.72
4.282	6	Logging and Milling	24,638	5	8	63	3,128.64	625.73
4.287	6	Methods-Supervision	24,638	20	3	63	1,173.24	58.66
6.281	6	Bldg. Materials	25,747	10	5	54	2,383.99	238.40

TABLE 36. FOREST PRODUCTS TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

[illegible]

TOTAL,

\$83,444.37

TABLE 37. FOREST TECHNOLOGY CURRICULUM (1976-78)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
1.101	1	Comm. Skills	\$14,092	17	3	41	\$1,031.12	\$ 60.65
4.101	1	Drafting	22,933	19	4	46	1,994.17	104.96
3.600	1	Gen. Forestry	29,963	32	5	6	14,981.50	468.17
4.202	1	Mathematics	23,933	14	4	56	1,709.50	122.11
6.101	1	Plane Surveying	21,917	13	8	51	3,437.97	264.46
6.137	1	Slide Rule Oper.	19,752	21	2	68	580.94	27.66
3.605	1	Tools and Equip.	20,973	27	3	41	1,534.61	56.84
6.192	1	Intro. to Eng. 1 Calc.	22,173	16	2	55	806.29	50.39
1.104	2	Comm. Skills	18,379	23	3	45	1,225.27	53.27

TABLE 37. FOREST TECHNOLOGY CURRICULUM.(1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
4.135	2	Project Graphics	\$20,760	11	4	60	\$1,384.00	\$125.82
4.204	2	Mathematics	17,587	11	4	60	1,172.47	106.59
6.103	2	Plane Surveying	21,917	13	8	59	2,971.80	228.60
3.610	2	Tree Ident.	20,973	61	3	41	1,534.61	25.16
4.280	2	Forest Products	21,917	22	6	64	2,054.72	93.40
1.106	3	Report Writing	16,167	18	3	45	1,077.80	59.88
6.300	3	Forest Mensuration	21,917	17	7	51	3,751.49	220.68
3.611	3	Tree Ident.	20,973	25	3	41	1,534.61	61.38
4.190	3	Acc. Prev./First Aid	20,973	2	3	41	1,534.61	767.30

TABLE 37. FOREST TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
3.624	3	Forest Photogram.	\$20,973	14	4	50	\$1,677.84	\$119.85
--	3	Elective	19,206	13	3	60	960.30	73.87
5.151	4	Nat'l Cover Fire Prot.	25,747	32	5	41	3,139.88	98.12
6.510	4	Forest Road Surveying	24,638	13	7	59	2,923.15	224.86
4.282	4	Logging and Milling	24,638	24	8	63	3,128.64	130.36
--	4	Elective	21,591	15	5	60	1,079.55	71.97
1.606	4	Intro. Psych.	23,171	32	3	48	1,448.19	45.26
BA 229	4	Consumer Finance	21,591	10	3	40	1,619.33	161.93
6.280		Wood Struct./ Ident.	24,638	15	7	63	2,737.56	182.50

TABLE 37. FOREST TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
3.617	5	Scaling Practices	\$17,325	22	.8	44	\$3,150.00	\$143.18
4.286	5	Wood Indus. Econ.	25,747	13	3	54	1,430.39	110.03
	5	Elective	21,591	14	3	60	1,079.55	77.11
4.302	5	Practical Physics	25,747	16	5	55	2,340.64	146.29
3.601	5	Seminar	24,638	17	1	63	391.08	23.00
3.614	6	Wood Prod. Mark.	25,747	10	4	54	1,907.19	190.72
4.287	6	Methods-Supervision	24,638	20	3	63	1,173.24	58.66
4.172	6	Power Systems	20,661	10	7	63	2,295.67	229.57
3.626	6	Forest Sciences	23,577	19	2	46	1,025.09	53.95

TABLE 37. FOREST TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

[illegible]

TOTAL,

\$78,904.32

TABLE 38. MACHINE SHOP TECHNOLOGY CURRICULUM (1976-78)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
4.200	1	Mathematics	\$16,112	16	4	59	\$1,092.34	\$ 68.27
1.101	1	Comm. Skills	14,092	17	3	41	1,031.12	60.65
1.606	1	Intro. Psych.	23,933	26	3	52	1,380.75	53.11
4.101	1	Drafting	22,933	19	4	46	1,994.17	104.96
-06-4.802	1	Machine Tool Proc.	19,194	20	8	37	4,150.05	207.50
4.253	1	Shop Safety	22,903	71	1	56	408.98	5.76
4.810	1	Blue Print Reading and Layout	22,903	11	5	59	1,940.93	176.45
4.202	2	Mathematics	21,380	17	4	60	1,425.33	83.84
4.300	2	Practical Physics	23,417	12	5	54	2,168.24	180.69

TABLE 38. MACHINE SHOP TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
4.105	2	Drafting	\$17,587	18	4	59	\$1,192.34	\$ 66.24
4.804	2	Machine Tool Pro.	22,903	11	8	63	2,908.32	264.39
4.150	2	Welding	17,589	10	4	32	2,198.63	219.86
4.204	3	Mathematics	17,587	35	4	60	1,172.47	33.50
-16- 1.104	3	Comm. Skills	15,935	21	3	55	869.18	41.39
4.804	3	Machine Tool Pro.	20,641	9	11	63	3,603.98	400.44
4.302	3	Practical Physics	23,417	11	5	37	3,164.46	287.68
4.170	3	Indus. Mat./Pro.	22,903	10	6	59	2,329.12	232.91
4.171	4	Mechanical Systems	20,661	11	6	44	2,817.41	256.13

TABLE 38. MACHINE SHOP TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
4.820	4	Machine Shop Prob.	\$25,747	12	3	51	\$1,514.53	\$126.21
4.841	4	Machine Shop Prac.	25,747	12	12	51	6,058.12	504.84
4.173	4	Hydraulics and Pneumatic Sys. I	20,661	20	5	63	1,639.76	81.99
--	4	Elective	21,591	15	3	60	1,079.55	71.97
4.176	5	Hydraulics and Pneumatic Sys. II	20,661	12	5	63	1,639.76	136.65
4.174	5	Metal Fab. Finishing	25,747	9	8	68	3,029.06	336.56
4.833	5	Adv. Lathe Prac.	24,638	12	8	61	3,231.21	269.27
4.837	5	Adv. Milling Mach. Prac.	25,747	10	6	68	2,271.79	227.18
--	5	Elective	21,591	14	3	60	1,079.55	77.11

TABLE 38. MACHINE SHOP TECHNOLOGY CURRICULUM (1971-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
4.824	6	Machine Shop Auto.	\$20,661	8	2	63	\$ 655.90	\$ 81.99
4.845	6	Job Mach. Prac.	24,638	9	16	61	6,462.43	718.05
4.847	6	Tool and Fixture Design App.	25,747	8	9	68	3,407.69	425.96
4.500	6	Employer-Employee Rel.	15,865	16	3	1286	37.01	2.31

TOTAL,

\$67,954.18

TABLE 39. MEDICAL ASSISTING CURRICULUM (1976-78)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
5.602	1	Med. Assisting Basic Pro.	\$18,465	20	4	68	\$1,086.18	\$ 54.31
5.700	1	Health Occup. Overview	32,903	105	1	4	8,225.75	78.34
5.611	1	Med. Law/Ethics	16,909	27	3	62	818.18	30.30
4.200	1	Mathematics	18,233	43	4	36	2,025.89	47.11
5.615	1	Body Struct. Funct. I	22,021	40	4	50	1,761.68	44.04
5.600	1	Med. Term. I	18,465	46	3	68	814.63	17.71
SS 121	1	Typing	23,114	35	5	56	2,063.75	58.96
5.616	2	Body Struct. Funct. II	22,021	26	4	50	1,761.68	67.76
5.604	2	Med. Off. Prac.	18,465	17	6	68	1,629.26	95.84

TABLE 39. MEDICAL ASSISTING CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
5.513	2	First Aid	\$21,523	56	1	40	\$ 538.08	\$ 9.61
5.607	2	Med. Off. Mgmt.	21,523	19	3	38	1,699.18	89.43
5.610	2	Med. Term. II	18,465	30	3	68	814.63	27.15
WR 121 or 1.101	2	Eng. Comp. Comm. Skills	15,267	22	3	39	1,174.38	53.38
5.603	2	Med. Trans.	16,182	19	3	42	1,155.86	60.83
5.605	3	Med. Sci.	588	24	3	45	39.20	1.63
5.606	3	Med. Assisting Adv. Prac.	18,465	16	4	68	1,086.18	67.89
5.609	3	Med. Off. Prac.	17,324	13	17	55	5,354.69	411.90
PSY 101 or PSY 201	3	Intro. Psy. Gen. Psy.	23,100	76	3	41	1,690.24	22.24

TOTAL,

\$33,739.44

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TABLE 40. NURSING EDUCATION CURRICULUM (1976-78)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
NUR 101	1	Nursing	\$24,796	96	16	6	\$66,122.67	\$688.78
BI 110	1	Life Science Prin.	21,917	77	7	55	2,789.44	36.23
WR 121	1	Eng. Comp	17,704	22	3	42	1,264.57	57.48
5.700	1	Health Occup. Overview	32,903	58	1	4	8,225.75	141.82
NUR 102	2	Nursing	22,903	42	16	69	5,310.84	126.45
WR 122 or SP 111	2	Eng. Comp. Speech	16,460	19	3	47	1,050.64	55.30
BI 121	2	Anatomy and Physiology	18,792	17	6	52	2,168.31	127.55
PSY 299	2	Growth and Dev.	16,977	33	3	45	1,131.80	34.30
NUR 103	3	Nursing	22,903	45	20	69	6,638.55	147.52

TABLE 40. NURSING EDUCATION CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
BI 122	3	Anatomy and Physiology	\$18,792	14	6	52	\$2,168.31	\$154.88
--	3	Elective	19,206	13	3	60	960.30	73.87
NUR 201	4	Nursing	19,771	54	16	72	4,393.56	81.36
BI 123	4	Microbiology	22,456	13	6	62	2,173.16	167.17
SP 113	4	Speech	16,580	37	3	45	1,105.33	29.87
--	4	Elective	21,591	15	3	60	1,079.55	71.97
NUR 202	5	Nursing	24,638	52	20	13	37,904.61	728.93
SOC 204	5	Sociology	21,591	64	3	45	1,439.40	22.49
--	5	Elective	21,591	14	3	60	1,079.55	77.11

(CONTINUED)

[illegible]

TOTAL,

\$191,676.19

TABLE 41. WELL DRILLING TECHNOLOGY CURRICULUM (1976-78)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
4.200	1	Mathematics	\$16,112	16	4	59	\$1,092.34	\$ 68.27
1.101	1	Comm. Skills	14,092	17	3	41	1,031.12	60.65
4.810	1	Blueprint Reading and Layout	22,903	11	5	59	1,940.93	176.45
4.305	1	Elem. Geology	18,379	20	5	53	1,733.87	86.69
4.105	1	Welding	20,561	18	4	71	1,158.37	64.35
4.290	1	Drilling Oper. I	15,412	13	5	59	1,306.10	100.47
4.202	2	Mathematics	21,380	17	4	60	1,425.33	83.84
1.104	2	Comm. Skills	14,092	15	3	45	939.47	62.63
4.802	2	Machine Tool Pro.	22,903	17	5	63	1,817.70	106.92

TABLE 41. WELL DRILLING TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
4.154	2	Inter. Arc Welding	\$21,917	15	8	72	\$2,435.22	\$162.35
4.152	2	Oxy-Acetylene for Drillers	18,379	16	5	71	1,294.30	80.89
4.253	2	Shop Safety	22,903	28	1	56	408.98	14.61
4.302	3	Practical Physics	23,417	27	5	54	2,168.24	80.31
4.170	3	Indus. Mat./Pro.	22,903	15	5	59	1,940.93	129.40
4.167	3	Welding Certification	21,917	29	10	72	3,044.03	104.97
4.292	3	Drilling Oper. II	15,412	14	6	59	1,567.32	111.95
--	3	Elective	19,206	13	3	60	960.30	73.87
BA 229	4	Consumer Finance	21,591	10	3	40	1,619.33	161.93

TABLE 41. WELL DRILLING TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

Course Number	Term	Course Name	Instructor's Salary	Number of Students	Class Hrs. Week	No. of Hrs. Taught by Instructor	Instructor Cost	
							Course	Student
4.293	4	State Drilling Stand. and Record Keeping	\$12,993	10	3	46	\$ 847.37	\$ 84.74
4.172	4	Power Systems	20,661	9	7	63	2,295.67	255.07
4.173	4	Hydraulic and Pneumatic Systems	20,661	20	5	63	1,639.76	81.99
4.295	4	Drilling Oper. III	12,993	9	9	46	2,542.11	282.46
EC 100 -101-	5	Outline of Economics	593	29	3	15	118.60	4.09
4.171	5	Mech. Systems	593	9	6	28	127.07	14.12
4.291	5	Engine Theory and Maint.	20,661	10	6	61	2,032.23	203.22
4.296	5	Drilling Oper. IV	593	10	9	28	190.61	19.06

TABLE 41. WELL DRILLING TECHNOLOGY CURRICULUM (1976-78)
(CONTINUED)

[illegible]

TOTAL,

\$45,561.38

Economic Costs:

The course matrix provides the input for instructor cost data for each program. By adding the instructor cost per course for all courses required in the curriculum, including technical and general electives, an estimate is gained of the instructional cost (professional and part-time salaries) for the program.

Student tuition, unusual expenses, and foregone earnings are averages for the graduates who supplied the data in the Graduate Survey portion of the study. Average earnings per graduate have been deducted from foregone earnings. Here financial aid is typically a source of income for the graduate as opposed to employment outside of the College.

Non-instructional costs include, as previously stated, those operational budget monies for personnel (excluding instructional staff), materials and services, and capital outlay. Any atypical revenue decreasing the program cost, as in the case of the Early Childhood Education Program, has been subtracted. Day FTE for the program was then divided into the total cost to obtain cost per FTE. This calculation provides a means to obtain a cost per graduate where the graduate is assumed to have been a full-time student (see Table 42 for the budgetary and enrollment figures used).

Administrative support costs per FTE are obtained by using the adopted operating budget for the year for each major division of Chemeketa, excluding the Division of Community Services and the Instructional Services Division except for the office of the Dean of Instruction. The College's total FTE for 1976-77 (5104) was divided into the total budgetary figures to produce an institutional cost per FTE. The same procedure was used for 1977-78 (with 5340 FTE's). Multiplying the derived cost per FTE times the day FTE for the program provides an estimate of dollars for program support. Table 43 shows the various divisions' budget amounts for each year and the cost per FTE.

The following tables display the economic costs for each of the nine programs. The tables show in parenthesis the number of graduates who started in the fall of 1976 (except Medical Assisting students started in the fall of 1977) and completed the requirements for the program(s) in the spring of 1978. However, more students graduated in 1978 because some individuals began their studies before the fall of 1976.

**TABLE 42. Non-Instruction Costs Per FTE
For Each Program**

Program	1976-77			1977-78		
	Day FTE	Operating Budget	Cost/FTE	Day FTE	Operating Budget	Cost/FTE
Early Child- hood Education	80.3	\$133,411* 24,038**	\$ 299.35	80.5	\$116,835* 6,979**	\$ 86.70
Computer Programming	56.4	200,079 118,524	2,101.49	51.4	163,171 89,740	1,745.91
Fire Protection	61.9	90,646 40,226	649.86	57.1	95,466 42,118	737.62
Forest Products	13.0	39,965 3,226	248.15	12.4	44,944 4,636	373.87
Forest Technology	77.3	42,831 8,449	109.30	71.2	44,952 12,552	176.29
Machine Shop	34.2	67,761 15,958	466.61	39.4	75,006 18,168	461.12
Medical Assisting	-	-	-	19.1	27,419 1,706	89.32
Nursing	154.1	237,806 29,449	191.10	168.0	260,314 10,681	63.58
Well- Drilling	31.6	35,356 14,850	469.94	32.0	29,779 19,384	605.75

*\$25,000 in Early Childhood Education revenue for the centers subtracted from 1976-77 operating budget of \$133,411 gives adjusted operating budget figure of \$108,411.

**Operating budget for 1976-77 minus professional full-time and part-time salaries.

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TABLE 43. Administrative Support Cost Per FTE

Budget Area	1976-77		1977-78	
	Operating Budget	Cost/FTE*	Operating Budget	Cost/FTE**
President's Office	\$ 771,357	\$151.13	\$1,009,022	\$188.96
Administrative Services	2,935,766	575.19	3,051,294	571.40
Student Services	592,837	116.15	786,593	147.30
Instructional Services (Dean's Office)	103,947	20.37	87,130	16.43
TOTAL	\$4,403,907	\$862.83	\$4,934,039	\$930.25

*Used College Total FTE figure of 5104 for 1976-77.

**Used College Total FTE figure of 5304 for 1977-78.

**TABLE 44. Economic Costs Per Graduate,
Early Childhood Education (12 graduates)**

Economic Costs	1976-77	1977-78
1. Student		
A. Tuition ^a	\$336.67	\$390.00
B. Unusual Expenses ^b	499.00	499.00
C. Books, Supplies ^c	210.00	240.00
D. Foregone Earnings ^d	803.00	803.00
2. Instruction ^e	253.52	335.10
3. Non-Instruction ^f	299.35	86.70
4. Administrative Support ^g	862.83	930.25
TOTAL	\$3,264.37	\$3,284.05

a = average tuition cost for the Early Childhood Education graduates who completed the Graduate Follow-Up Questionnaire.

b = average cost for expenses over and beyond those costs normally incurred in studying (i.e., child care, travel, cap/gown).

c = average cost estimate provided by office of Financial Aid.

d = average dollars lost while studying (\$2193.) minus the average amount of money earned while studying (\$1390).

e = sum of instructor cost/course (\$20,357.64 in 1976-77 divided by day FTE (80.3 - Table 42): assumed each Early Childhood Education graduate was a full-time equivalent student.

f = operating budget for program (Table 42) minus salaries for professional full-time and part-time staff divided by day FTE.

g = operating budget for administrative support areas (Table 43) divided by College Total FTE.

**TABLE 45. Economic Costs Per Graduate
Computer Programming (3 graduates)**

Economic Costs	1976-77	1977-78
1. Student		
A. Tuition ^a	\$ 330.00	\$ 390.00
B. Unusual Expenses ^b	583.00	583.00
C. Books, Supplies ^c	210.00	240.00
D. Foregone Earnings ^d	1,946.00	1,946.00
2. Instruction ^e	433.07	774.47
3. Non-Instruction ^f	2,101.49	1,745.91
4. Administrative Support ^g	862.83	930.25
TOTAL	\$6,466.39	\$6,609.63

a = average tuition cost for the Computer Programming graduate who completed the Graduate Follow-Up Questionnaire.

b = average cost for expenses over and beyond those costs normally incurred in studying (i.e., child care, lab. fees, travel).

c = average cost estimate provided by Office of Financial Aid.

d = average dollars lost while studying as reported on the Graduate Follow-Up Questionnaire.

e = sum of instructor cost/course (\$24,424.91 for 1976-77) divided by day FTE (Table 42); assumed each Computer Programming graduate was a full-time student.

f = operating budget for program (Table 42) minus salaries for professional full-time and part-time staff divided by day FTE.

g = operating budget for administrative support areas (Table 43) divided by College Total FTE.

**TABLE 46. Economic Costs Per Graduate
Fire Protection (4 graduates)**

Economic Costs	1976-77	1977-78
1. Student		
A. Tuition ^a	\$ 345.00	\$ 438.75
B. Unusual Expenses ^b	604.00	604.00
C. Books, Supplies ^c	210.00	240.00
D. Foregone Earnings ^d	5,263.00	5,263.00
2. Instruction ^e	478.45	805.74
3. Non-Instruction ^f	649.86	737.62
4. Administrative Support ^g	862.83	930.25
TOTAL	\$8,413.14	\$9,019.36

a = average tuition cost for the Fire Protection graduates who completed the Graduate Follow-Up Questionnaire.

b = average cost for expenses over and beyond those costs normally incurred in studying (i.e., child care, travel).

c = average cost estimate provided by Office of Financial Aid.

d = average dollars lost while studying (\$11,465) minus the average amount of money earned while studying (\$6,202).

e = sum of instructor cost/course (\$29,615.75 for 1976-77) divided by day FTE (Table 42); assumed each Fire Protection graduate was a full-time equivalent student.

f = operating budget for program (Table 42) minus salaries for professional full-time and part-time staff divided by day FTE.

g = operating budget for administrative support areas (Table 43) divided by College Total FTE.

**TABLE 47. Economic Costs Per Graduate
Forest Products (2 graduates)**

Economic Costs	1976-77	1977-78
1. Student		
A. Tuition ^a	\$ 360.00	\$ 487.50
B. Unusual Expenses ^b	1,000.00	1,000.00
C. Books, Supplies ^c	210.00	240.00
D. Foregone Earnings ^d	402.40	402.40
2. Instruction ^e	3,659.93	2,892.37
3. Non-Instruction ^f	248.15	373.87
4. Administrative Support ^g	862.83	930.25
TOTAL	\$6,743.31	\$6,326.39

a = average tuition cost for the Forest Products graduate who completed the Graduate Follow-Up Questionnaire.

b = average cost for expenses over and beyond those costs normally incurred in studying (i.e., child care, travel).

c = average cost estimate provided by Office of Financial Aid.

d = average dollars lost while studying as reported on the Graduate Follow-Up Questionnaire.

e = sum of instructor cost/course (\$47,579.03 for 1976-77) divided by day FTE (Table 42); assumed each Forest Products graduate was full-time equivalent student.

f = operating budget for the program (Table 42) minus salaries for professional full-time and part-time staff divided by day FTE.

g = operating budget for administrative support areas (Table 43) divided by College Total FTE.

**TABLE 48. Economic Costs Per Graduate
Forest Technology (one graduate)**

Economic Costs	1976-77	1977-78
1. Student		
A. Tuition ^a	\$ 390.00	\$ 585.00
B. Unusual Expenses ^b	896.00	896.00
C. Books, Supplies ^c	210.00	240.00
D. Foregone Earnings ^d	1,985.00	1,985.00
2. Instruction ^e	607.45	448.72
3. Non-Instruction ^f	109.30	176.29
4. Administrative Support ^g	862.83	930.25
TOTAL	\$5,060.58	\$5,261.26

a = average tuition cost for the Forest Technology graduates who answered the Graduate Follow-Up Questionnaire.

b = average cost for expenses over and beyond those normally incurred in studying (i.e., child care, travel).

c = average cost estimate provided by Office of Financial Aid.

d = average dollars lost while studying (\$5,360) minus the average amount of money earned while studying (\$3,375).

e = sum of instructor cost/course (\$46,955.62 for 1976-77) divided by day FTE (Table 42); assumed each Forest Technology graduate was full-time equivalent student.

f = operating budget for program (Table 42) minus salaries for professional full-time and part-time staff divided by day FTE.

g = operating budget for administrative support areas (Table 43) divided by College Total FTE.

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**TABLE 49. Economic Costs Per Graduate
Machine Shop (4 graduates)**

Economic Costs	1976-77	1977-78
1. Student		
A. Tuition ^a	\$ 345.00	\$ 438.75
B. Unusual Expenses ^b	550.00	550.00
C. Books, Supplies ^c	210.00	240.00
D. Foregone Earnings ^d	-	-
2. Instruction ^e	965.80	886.39
3. Non-Instruction ^f	466.61	461.12
4. Administrative Support ^g	862.83	930.25
TOTAL	\$3,400.24	\$3,506.51

a = average tuition cost for the Machine Shop graduates who answered the Graduate Follow-Up Questionnaire.

b = average expenses over and beyond those costs normally incurred in studying (i.e., uniforms, lab fees, equipment, tools).

c = average cost estimate provided by the Office of Financial Aid.

d = \$4,800 was given as the estimate for lost earnings while studying. However, \$7,500 was earned while attending Chemeketa, so there was a gain in money rather than a loss due to student status.

e = sum of the instructor cost/course (\$33,030.41 for 1976-77) divided by day FTE (Table 42); assumed each Machine Shop graduate was a full-time equivalent student.

f = operating budget for the program (Table 42) minus professional full-time and part-time staff salaries divided by day FTE.

g = operating budget for the administrative support areas (Table 43) divided by the College Total FTE.

**TABLE 50. Economic Costs Per Graduate
Medical Assisting (14 graduates)**

Economic Costs	1977-78
1. Student	
A. Tuition ^a	\$ 417.86
B. Unusual Expenses ^b	309.00
C. Books, Supplies ^c	240.00
D. Foregone Earnings ^d	-
2. Instruction ^e	1,766.46
3. Non-Instruction ^f	89.32
4. Administrative Support ^g	930.25
TOTAL	\$3,752.89

a = average tuition cost for the Medical Assisting graduates who answered the Graduate Follow-Up Questionnaire.

b = average cost for expenses over and beyond those costs normally incurred in studying (i.e., child care, travel, pinning ceremonies, cap/gowns, uniforms).

c = average cost estimate provided by the Office of Financial Aid.

d = graduates averaged \$3,135 in lost earnings while attending Chemeketa. However, the graduates earned an average of \$3,498 while studying, so there was no average loss in income for the group.

e = sum of instructor cost/course (\$33,739.44 for 1977-78) divided by the day FTE (Table 42); assumed each Medical Assisting graduate was a full-time equivalent student.

f = operating budget for Medical Assisting (Table 42) minus salaries for professional full-time and part-time staff divided by day FTE.

g = operating budget for the administrative support areas (Table 43) divided by the Total College FTE.

**TABLE 51. Economic Costs Per Graduate
Nursing (47 graduates)**

Economic Costs	1976-77	1977-78
1. Student		
A. Tuition ^a	\$ 336.60	\$ 365.11
B. Unusual Expenses ^b	1,170.00	1,170.00
C. Books, Supplies ^c	210.00	240.00
D. Foregone Earnings ^d	5,584.00	5,584.00
2. Instruction ^e	634.86	558.60
3. Non-Instruction ^f	191.10	63.58
4. Administrative Support ^g	862.83	930.25
TOTAL	\$8,989.39	\$8,911.54

a = average tuition cost for the Nursing graduates who answered the Graduate Follow-Up Questionnaire.

b = average cost for expenses over and beyond those normally incurred in studying (i.e., child care, travel, cap/gowns, pinning ceremonies, uniforms).

c = average cost estimate provided by the Office of Financial Aid.

d = average dollars lost while studying (\$7,636) minus the average amount of money earned while attending (\$2,052).

e = sum of instructor cost/course (\$97,831.18 for 1976-77) divided by the day FTE (Table 42); assumed each Nursing graduate was a full-time equivalent student.

f = operating budget for Nursing (Table 42) minus salaries for professional full-time and part-time staff divided by day FTE.

g = operating budget for administrative support areas (Table 43) divided by the Total College FTE.

**TABLE 52. Economic Costs Per Graduate
Well-Drilling (7 graduates)**

Economic Costs	1976-77	1977-78
1. Student		
A. Tuition ^a	\$ 332.86	\$ 390.00
B. Unusual Expenses ^b	2,093.00	2,093.00
C. Books, Supplies ^c	210.00	240.00
D. Foregone Earnings ^d	5,841.50	5,841.50
2. Instruction ^e	831.16	603.03
3. Non-Instruction ^f	469.94	605.75
4. Administrative Support ^g	862.83	930.25
TOTAL	\$10,641.29	\$10,703.53

a = average tuition cost for the Well-Drilling graduates who answered the Graduate Follow-Up Questionnaire.

b = average cost for expenses over and beyond those costs normally incurred in studying (i.e., tools, equipment, travel)

c = average cost estimate provided by the Office of Financial Aid.

d = average dollars lost while studying (\$18,333) minus the amount of money earned (\$6,650) while attending Chemeketa.

e = sum of instructor cost/course (\$26,264.55 for 1976-77) divided by the day FTE (Table 42); assumed each Well-Drilling graduate was a full-time equivalent student.

f = operating budget for Well-Drilling (Table 42) minus salaries for professional full-time and part-time staff divided by day FTE.

g = operating budget for the administrative support areas (Table 43) divided by the Total College FTE.

Economic Benefits

For each of the nine occupational programs, economic benefits are measured using increased earnings, tax revenues, and increased productivity to society. Increased earning is defined as the dollar difference between the average income earned by the graduates prior to studying and the average placement income for the graduates at the time of graduation. Data for computing average increased earnings were obtained from information supplied by the graduates on the Graduate Follow-Up Questionnaire.

Federal and State tax revenue gains are based upon several assumptions. Using federal and tax tables, it is assumed the typical Chemeketa community graduate is employed in Oregon. It is further assumed that the typical graduate is married and would file the short form for Oregon taxes. With the measure of increased productivity to society, it is assumed to be the same increased earnings as a person is paid according to his/her worth or productivity to society.

TABLE 53. Economic Benefits
Early Childhood Education Graduates

Economic Benefits	1978
1. Increased Earnings ^a	\$3,883.00
2. Tax Revenue ^b	276.00
3. Increased Productivity To Society ^c	3,883.00
TOTAL	\$8,042

a = difference between average salary before studying (\$2,511) and average salary at graduation (\$6,394).

b = difference between total taxes in 1976 and 1977 --- 1978 tax tables were not available.

c = assume same as increased earnings as a person is paid according to his/her worth or productivity to society.

**TABLE 54. Economic Benefits
Computer Programming Graduates**

Economic Benefits	1978
1. Increased Earnings ^a	\$3,228.00
2. Tax Revenue ^b	286.00
3. Increased Productivity To Society ^c	3,228.00
TOTAL	\$6,742.00

a = difference between average salary before studying (minimum wage resulting in \$6,000. was used because of insufficient data from the graduates) and average salary at graduation (\$9,228).

b = difference between total taxes in 1976 and 1977 -- 1978 tax tables were not available.

c = assume to be the same as increased earnings as a person is paid according to his/her productivity to society.

**TABLE 55. Economic Benefits
Fire Science Graduates**

Economic Benefits	1978
1. Increased Earnings ^a	\$6,313.00
2. Tax Revenue ^b	956.00
3. Increased Productivity To Society ^c	6,313.00
TOTAL	\$13,591.00

a = difference between average salary before studying (\$5,579) and average salary at graduation (\$11,892).

b = difference between total taxes for 1976 and 1977 --- 1978 tax tables were not available.

c = assume same as increased earnings as a person is paid according to his/her worth or productivity in society.

**TABLE 56. Economic Benefits
Forest Products Graduates**

Economic Benefits	1978
1. Increased Earnings ^a	\$3,802.00
2. Tax Revenue ^b	370.00
3. Increased Productivity To Society ^c	3,802.00
TOTAL	\$7,974.00

a = difference between average salary before studying (\$4,416) and average salary at graduation (\$8,218).

b = difference between total taxes in 1976 and 1977 --- 1978 tax tables were not available.

c = assume same as increased earnings as a person is paid according to his/her worth or productivity to society.

**TABLE 57. Economic Benefits
Forest Technology Graduates**

Economic Benefits	1978
1. Increased Earnings ^a	\$1,005.00
2. Tax Revenue ^b	-
3. Increased Productivity To Society ^c	1,055.00
TOTAL	\$2,110.00

a = difference between average salary before studying (\$7,700) and average salary at graduation (\$8,755).

b = difference between total taxes in 1976 and 1977 --- 1978 tax tables were not available. But in this instance because increased earnings was not sizeable, the tax revenue was negligible.

c = assume same as increased earnings as a person is paid according to his/her productivity to society.

**TABLE 58. Economic Benefits
Machine Shop Graduates**

Economic Benefits	1978
1. Increased Earnings ^a	\$1,754.00
2. Tax Revenue ^b	-
3. Increased Productivity To Society ^c	1,754.00
TOTAL	\$3,508.00

a = difference between average salary before studying (\$8,000) and average salary at graduation (\$9,754).

b = difference between total taxes in 1976 and 1977 --- 1978 tax tables were not available. The relatively small difference in salary levels results in negligible tax revenue.

c = assume same as increased earnings as a person is paid according to his/her productivity to society.

**TABLE 59. Economic Benefits
Medical Assisting Graduates**

Economic Benefits	1978
1. Increased Earnings ^a	\$2,745.00
2. Tax Revenue ^b	160.00
3. Increased Productivity To Society ^c	2,745.00
TOTAL	\$5,650.00

a = difference between average salary before studying (\$4,916) and average salary at graduation (\$7,661).

b = difference between total taxes in 1976 and 1977 --- 1978 tax tables were not available.

c = assume same as increased earnings as a person is paid according to his/her productivity in society.

**TABLE 60. Economic Benefits
Nursing Graduates**

Economic Benefits	1978
1. Increased Earnings ^a	\$5,326.00
2. Tax Revenue ^b	676.00
3. Increased Productivity To Society ^c	5,326.00
TOTAL	\$11,328.00

a = difference between average salary before studying (\$5,310) and average salary at graduation (\$10,636).

b = difference in total taxes in 1976 and 1977 --- 1978 tax tables were not available.

c = assume same as increased earnings as a person is paid according to his/her productivity to society.

**TABLE 61. Economic Benefits
Well-Drilling Graduates**

Economic Benefits	1978
1. Increased Earnings ^a	\$3,326.00
2. Tax Revenue ^b	365.00
3. Increased Productivity To Society ^c	3,326.00
TOTAL	\$7,017.00

a = difference between average salary before studying (\$9,000) and average salary at graduation (\$10,636).

b = difference between total taxes in 1976 and 1977 --- 1978 tax tables were not available.

c = assume same as increased earnings as a person is paid according to his/her productivity to society.

Cost/Benefit Ratio

By combining estimated economic costs and economic benefits for each program, it is possible to establish a ratio of costs to benefits. Economic costs are projected for the specific length of time typically involved in the education and training. For example, all economic costs are for the two years of 1976 through 1978, except for the Medical Assisting Program which is a one year certificate curriculum which for purposes of this study began in the fall of 1977. Economic benefits are displayed for one year of employment (1978) with average number of potential working years given for the typical graduate of the program. Economic costs as well as benefits are calculated on the basis of a single graduate. This information is presented in Tables 62-70, and Table 21 summarizes the cost/benefit data and indicates the possible rate of return on the educational investment for each curriculum.

TABLE 62. Costs Benefit Ratio
Early Childhood Education

Economic Costs 1976-78		Economic Benefits
1. Student		1. Increased Earnings \$3,883.00
A. Tuition	\$ 726.67	2. Tax Revenue 276.00
B. Unusual Expenses	998.00	
C. Books, Supplies	450.00	3. Increased Productivity to Society 3,883.00
D. Foregone Earnings	1,606.00	
2. Instruction	588.62	
3. Non-Instruction	386.05	
4. Admin. Support	1,793.08	
TOTAL	\$6,548.42	\$8,042.00*

*This total is a yearly total. The benefits are increased according to the number of years during the working lifetime of the person. Since the average age of the Early Childhood Education graduates at graduation was 24, it is reasonable to assume 38-41 more years of employment.

**TABLE 63. Costs Benefit Ratio
Computer Programming**

Economic Costs	1976-78	Economic Benefits
1. Student		1. Increased Earnings \$3,228.00
A. Tuition	\$ 720.00	2. Tax Revenue 286.00
B. Unusual Expenses	1,166.00	3. Increased Productivity to Society 3,228.00
C. Books, Supplies	450.00	
D. Foregone Earnings	3,892.00	
2. Instruction	1,207.54	
3. Non-Instruction	3,847.40	
4. Admin. Support	1,793.08	
TOTAL	\$13,076.02	\$6,742*

*This total is a yearly total. The benefits are increased according to the number of years during the working lifetime of the person. The average age of the Computer Programming graduate at graduation was 33, so there are better than 30 years of potential employment in Computer Programming areas.

**TABLE 64. Costs Benefit Ratio
Fire Protection**

Economic Costs	1976-78	Economic Benefits
1. Student		1. Increased Earnings \$6,313.00
A. Tuition	\$ 783.75	2. Tax Revenue 965.00
B. Unusual Expenses	1,208.00	3. Increased Productivity to Society 6,313.00
C. Books, Supplies	450.00	
D. Foregone Earnings	10,526.00	
2. Instruction	1,284.19	
3. Non-Instruction	1,387.48	
4. Admin. Support	1,793.08	
TOTAL	\$17,432.50	\$13,591.00*

*This is a yearly total. The benefits are increased according to the number of years during the working lifetime of the person. With the average age of the Fire Protection graduate being 22, forty more years of employment related to the training are possible.

**TABLE 65. Costs Benefit Ratio
Forest Products**

Economic Costs 1976-78	Economic Benefits
1. Student A. Tuition \$ 847.50 B. Unusual Expenses 2,000.00 C. Books, Supplies 450.00 D. Foregone Earnings 804.80 2. Instruction 6,552.30 3. Non-Instruction 622.02 4. Admin. Support 1,793.08	1. Increased Earnings \$3,802.00 2. Tax Revenue 370.00 3. Increased Produc- tivity to Society 3,802.00
TOTAL \$13,069.70	\$7,974.00*

*This figure is a yearly total. The benefits are increased according to the number of years during the working lifetime of the person. Average age for the Forest Products graduates was 25.

**TABLE 66. Costs Benefit Ratio
Forest Technology**

Economic Costs 1976-78	Economic Benefits
1. Student A. Tuition \$ 975.00 B. Unusual Expenses 1,792.00 C. Books, Supplies 450.00 D. Foregone Earnings 3,970.00 2. Instruction 1,056.17 3. Non-Instruction 285.59 4. Admin. Support 1,793.08	1. Increased Earnings \$1,055.00 2. Tax Revenue - 3. Increased Produc- tivity to Society 1,055.00
TOTAL \$10,321.84	\$2,110.00*

*This amount is a yearly total. The benefits are increased according to the number of years during the working lifetime of the person. The average age of the Forest Technology graduates was 25.

**TABLE 67. Cost Benefit Ratio
Machine Shop**

Economic Costs	1976-78	Economic Benefits
1. Student		1. Increased Earnings \$1,754.00
A. Tuition	\$ 783.75	2. Tax Revenue -
B. Unusual Expenses	1,100.00	3. Increased Productivity to Society 1,754.00
C. Books, Supplies	450.00	
D. Foregone Earnings	-	
2. Instruction	1,852.19	
3. Non-Instruction	927.73	
4. Admin. Support	1,793.08	
TOTAL	\$6,906.75	\$3,508.00*

*This total is a yearly total. The benefits are increased according to the number of years during the working lifetime of the person. The average age of the Machine Shop graduate at graduation was 31.

**TABLE 68. Cost Benefit Ratio
Medical Assisting**

Economic Costs	1976-78	Economic Benefits
1. Student		1. Increased Earnings \$2,745.00
A. Tuition	\$ 417.86	2. Tax Revenue 160.00
B. Unusual Expenses	309.00	3. Increased Productivity to Society 2,745.00
C. Books, Supplies	240.00	
D. Foregone Earnings	-	
2. Instruction	1,766.46	
3. Non-Instruction	89.32	
4. Admin. Support	930.25	
TOTAL	\$3,752.89	\$5,650.00*

*This figure is a yearly total. The benefits are increased for the number of years during the working lifetime of the person. In this study, the average age of the Medical Assisting graduates at graduation was 23.

TABLE 69. Cost Benefit Ratio
Nursing Education

Economic Costs	1976-78	Economic Benefits
1. Student		1. Increased Earnings \$ 5,326.00
A. Tuition	\$ 701.71	2. Tax Revenue 676.00
B. Unusual Expenses	2,340.00	3. Increased Productivity to Society 5,326.00
C. Books, Supplies	450.00	
D. Foregone Earnings	11,168.00	
2. Instruction	1,193.46	
3. Non-Instruction	254.68	
4. Admin. Support	1,793.08	
TOTAL	\$17,900.93	\$11,328.00*

*This figure is a yearly total. The benefits are increased for the number of years during the working lifetime of the person. In this study, the average age of the Nursing Education graduate was 28.

TABLE 70. Cost Benefit Ratio
Well-Drilling

Economic Costs	1976-78	Economic Benefits
1. Student		1. Increased Earnings \$3,326.00
A. Tuition	\$ 722.86	2. Tax Revenue 365.00
B. Unusual Expenses	4,186.00	3. Increased Productivity to Society 3,326.00
C. Books, Supplies	450.00	
D. Foregone Earnings	18,340.00	
2. Instruction	1,434.19	
3. Non-Instruction	1,075.69	
4. Admin. Support	1,793.08	
TOTAL	\$28,001.82	\$7,017.00

*This figure is a yearly total. The benefits are increased for the number of years during the working lifetime of the person. In this study, the average age of the Well-Drilling graduate was 28.

TABLE 71. Estimated Return on the Investment

Program	Graduates ^a	Average Salary Before Attending ^b	Average College Cost Per Year ^d	Average Student Cost Per Year ^d	Average Salary at Graduation ^b	Average Salary Difference	Tax Revenue	Productivity to Society	Return on Investment ^e
Early Child. Ed.	21/9	\$2,511	\$1,383.88	\$1,890.34	\$ 6,394	\$3,883	\$ 276	\$3,883	22.8%
Computer Prog.	7/4	6,000	3,424.01	3,114.00	9,228	3,228	286	3,228	3.1% ²
Fire Science	18/14	5,579	2,232.37	6,483.88	11,392	6,313	965	6,313	55.9% ²
Forest Prod.	2/2	4,416 ^c	4,483.70	2,051.15	8,218	3,802	370	3,802	37.3% ²
Forest Tech.	15/14	7,700	1,567.42	3,593.50	8,755	1,055	-	1,055	2.2% ⁵
Machine Shop	7/3	8,000	2,286.50	1,166.88	9,754	1,754	-	1,754	1.6% ²
Medical Assist.	14/0	4,916	2,786.03	966.86	7,661	2,745	160	2,745	50.5%
Nursing	55/8	5,310	1,620.61	7,329.86	10,636	5,326	676	5,326	26.6% ²
Well-Drilling	9/2	9,000	2,151.48	8,520.93	12,326	3,326	365	3,326	31.5% ²

a = for cost purposes used difference between two numbers of graduates, except in case of Forest Products where two was used and Medical Assisting where all 14 had begun studies in fall of 1977.

b = average salary as reported by graduates on Graduate Follow-Up Questionnaire.

c = used minimum wage, estimated at \$2.30/hr. during 1975.

d = data came from economic cost profiles for each program.

e = average college cost/year plus average student cost/year times length of the program divided by sum of average salary increase, tax revenue, and productivity to society. Number next to percent indicates year when return on investment occurs assuming benefits same as in previous year(s).

Summary - 1976-77 and 1977-78

Using Chemeketa's adopted operating budgets for instruction, supplies, materials, services, capital outlay, administration and support services plus workload and enrollment data with cost and placement data from graduates, preliminary estimates of costs and benefits were established for each program under consideration. All programs suggest a return on the investment for the graduate and society, ranging from 1.6% to 55.9%. Data for the Early Childhood Education and Medical Assisting programs suggest a return within the first year after training. While the other programs yield positive returns starting in most instances during the second year after graduation.

APPENDIX A
Planning Process, Cost-Benefit Studies

April 17, 1978

PROGRAM IMPROVEMENT PLAN (Phase II)

Target Area: Applying Cost/Benefit Model to Selected Occupational Programs.

Schedule of Activities and Time Frames for Outcomes

OUTCOME(S)

ACTIVITIES

TIME FRAME(S)

I. Apply Cost/Benefit model to at least nine programs by January, 1979.

IA. Determine Target Direction

1. establish rationale for selecting nine curricula.
2. identify nine programs for analysis
3. identify program staff to serve in liaison role.
4. review cost/benefit model with liaison staff/make any revisions in anticipated procedures.

June 1, 1978

IB. Compile Info. About Graduates

1. identify graduates, data, and definitions needed.
2. develop survey instrument and procedures for collecting graduate info.
3. determine survey methodology (sampling vs. population).
4. pilot test instrument and procedures.
5. submit results to liaison staff/revise as necessary.
6. collect info. from graduates.
7. organize collected info. by program.

June 30, 1978

IC. Compile Info. About Leavers

1. identify leavers, data and definitions needed.
2. develop survey instrument and procedures for collecting leaver info.
3. determine survey methodology (sampling vs. population)
4. pilot test instrument and procedures.
5. submit results to liaison staff/revise as necessary.
6. collect info. from leavers.
7. organize collected info. by program.

August 15, 1978

Program Improvement Plan (Phase II)
Page 2

OUTCOME(S)

ACTIVITIES

TIME FRAME(S)

ID. Compile Info. From Employers

1. identify employers, data, and definitions needed.
2. develop survey instrument and procedures for collecting employer info.
3. determine survey methodology (sampling vs. population).
4. pilot test instrument and procedures.
5. submit results to liaison staff/revise as necessary.
6. collect info. from employers.
7. organize collected info. by program.

October 13, 1978

IE. Compile Program Cost Data

1. determine direct cost data and definitions needed.
2. determine indirect cost data and definitions needed.
3. determine degree of discrepancy between catalog and program deviations.
4. obtain direct cost data from Division of Administrative Services.
5. obtain indirect cost data from program managers.
6. submit results to liaison staff/revise as necessary.
7. organize collected info. by program.

November 17, 1978

IF. Prepare Final Report

1. design reporting format.
2. complete preliminary draft.
3. complete final draft.
4. disseminate final report to President through Dean of Instruction.
5. distribute final copies to liaison staff, with copy to college library.

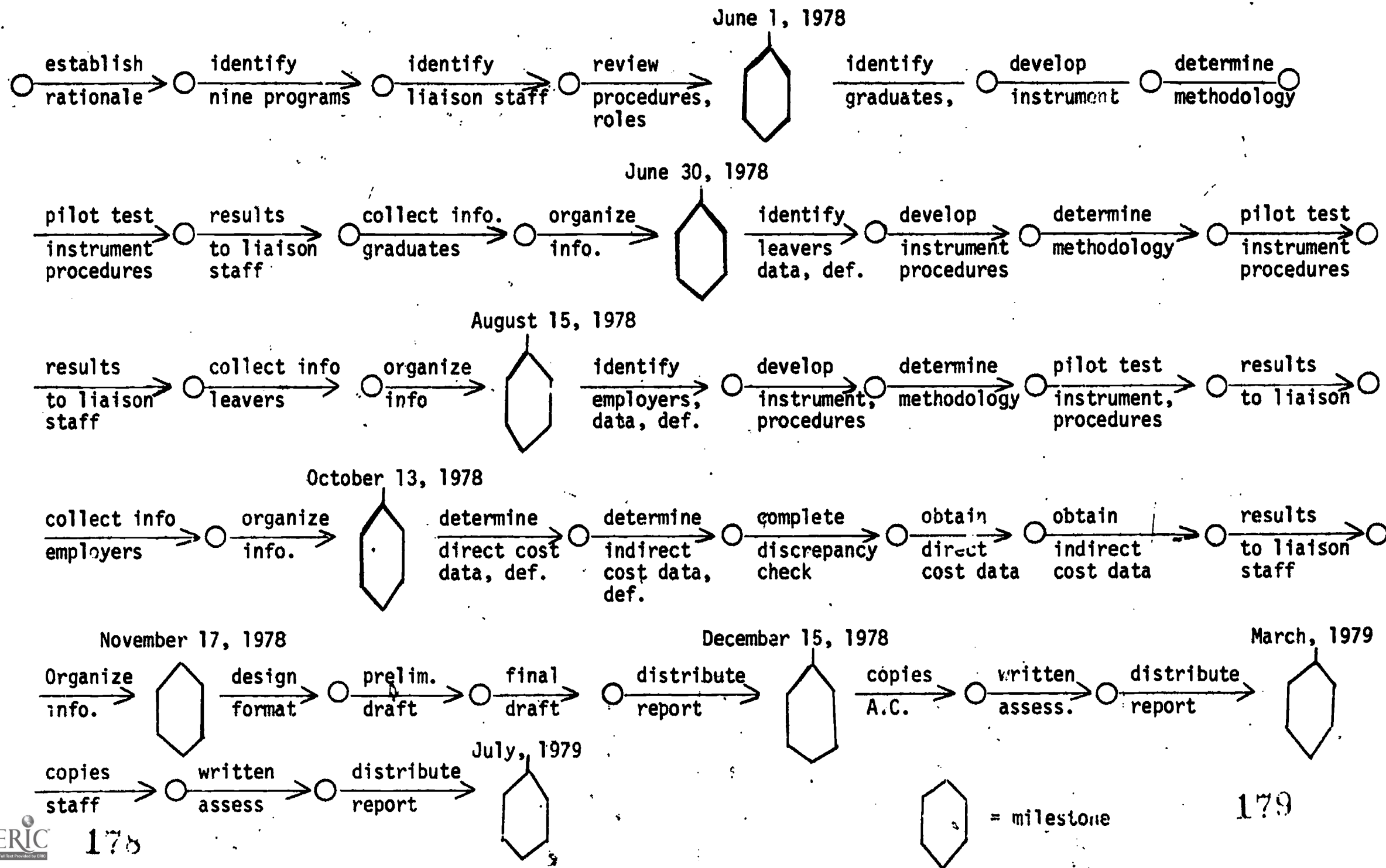
December 15, 1978

Program Improvement Plan (Phase II)
Page 3

<u>OUTCOME(S)</u>	<u>ACTIVITIES</u>	<u>TIME FRAME(S)</u>
II. Advisory Committees to the programs analyzed will prepare an assessment of the model by January, 1979.	IIA. Dessimate copies of the model and study to the executive secretary of the advisory committee.	
	IIB. Request written assessment of model as a reference tool for the study.	
	IIC. Forward assessment and recommendations by advisory committee to President through the Dean of Instruction.	March, 1979
III. Staff in the programs measured will evaluate the model by July 1, 1979	IIIA. Dessiminate copies of model and study to liaison person of program staff.	
	IIIB. Request written assessment recommendations from staff through the liaison individual.	
	IIIC. Forward assessment and recommendations to President through the Dean of Instruction.	July, 1979

RELATIONSHIPS AMONG ACTIVITIES (Path of Events)

May 10, 1978



APPENDIX B
Graduate Follow-Up Form

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1000 LANCASTER DRIVE N.E.
P.O. BOX 14007
SALEM, OREGON 97309
(503) 399 5000

Dear Graduate:

Chemeketa Community College is still in its early stage of growth, and we are searching for ways to improve our educational programs.

To help us, we ask you to complete this questionnaire. It requires information about your current activities and your earlier community college experience. It will require about 10 minutes of your time to complete. Your responses will be treated in strictest confidence. They will be grouped with those of other former students, and will be used only for this study.

Please complete the questionnaire and return it to us within three days. A pre-addressed and stamped return envelope is enclosed for your convenience. Thank you for your help.

Sincerely,

(Program) _____

Form 1: Follow-Up Survey of Graduates
Chemeketa Community College
Salem, Oregon

1. Name _____

A. Age upon entering Chemeketa Community College _____

B. Age upon graduating from Chemeketa Community College _____

2. If you are working now, please complete the following:

A. Is your job related to the training you received at Chemeketa?

_____ Yes

_____ No

B. Name of firm/employer: _____

C. Address of firm/employer: _____

D. Job title: _____

E. Salary: _____ per hour, day, week, month, year (circle one)

F. Full-time: _____ part-time: _____ (please check)

G. Hours work/week: _____

H. If you are working and the work is in line with your training received at Chemeketa, may we have your permission to send a questionnaire to your employer this coming October?

_____ Yes

_____ No

3. If you are not working now, do you have a job arranged for after graduation?

_____ Yes

_____ No

If "yes" please answer the following:

A. Is your job related to the training you received at Chemeketa?

_____ Yes

_____ No

B. Name of firm/employer: _____

C. Address of firm/employer: _____

D. Job title: _____

E. Salary: _____ per hour, day, week, month, year (circle one)

F. Starting date: _____

G. Full-time: _____ part-time: _____ (please check)

H. Hours work/week: _____

I. May we have your permission to send a questionnaire to your employer this coming October?

_____ Yes

_____ No

4. Would you please indicate the name, address, and telephone number of someone who will know where you may be contacted during the next six months? (a permanent address is needed so Chemeketa can do a follow-up study of your progress)
- _____
- _____

5. If you were employed before you started studying at Chemeketa Community College, please indicate the approximate amount of money you earned during the year prior to studying. _____

6. If you were employed while studying at Chemeketa Community College, please indicate the approximate amount of money you earned during the year during your last year at Chemeketa Community College. _____

7. What were your principal sources of funds while attending Chemeketa Community College. (please indicate approximate percentage of support).

<u>Source</u>	<u>Approximate %</u>
A. parents	_____
B. personal earning	_____
C. agency assistance (i.e., Ceta, DVR, Welfare)	_____
D. financial aid (i.e. work study, scholarships, loan)	_____
E. Spouse	_____
F. G.I. Bill	_____
G. Other (please indicate)	_____

8. For your last year of attending Chemeketa Community College, please indicate approximately how much it cost over and beyond your usual living expenses for you to go to school? (i.e., travel from outside of Salem, child care, lab fees, tools and equipment, uniforms and shoes). _____
- _____

9. Did you reduce or stop employment to go to Chemeketa? If so, please indicate how much it cost you while you were in school. _____

10. Did you pay the out-of-district tuition? _____ Yes _____ No

11. If "Yes" please indicate the number of terms you paid the out-of-district rate of tuition. _____

12. For the training you received at Chemeketa Community College what has been the most important benefit? _____

Second most important benefit? _____

APPENDIX C
Graduate Follow-Up Form (Reminder)



4000 LANCASTER DRIVE N.E.
P.O. BOX 14007
SALEM, OREGON 97309
(503) 399 5000

July 18, 1978

Dear Graduate:

We recently sent you a questionnaire requesting information about you and your activities since leaving the community college. We have not received your response, and it is important that we do. Therefore, we are enclosing another copy of the questionnaire and a pre-addressed, postage-paid return envelope for your convenience.

If you have not completed the questionnaire, please fill in the enclosed copy and mail it to us immediately. All responses will be treated as confidential and will be used only for research purposes. We appreciate your cooperation.

Very truly yours,



4000 LANCASTER DRIVE N.E.
P.O. BOX 14007
SALEM, OREGON 97309
(503) 399-5000

August 15, 1978

Dear Graduate:

As you may remember, this past spring you participated in a follow-up survey. At that time you did not indicate your work plan. To complete the survey, we would like to ask you to complete the questionnaire below.

If you have any questions about this request, please feel free to call 399-5075.

Sincerely,

If you are now working, please complete the following?

A. Is your job related to the training you received at Chemeketa?

_____ Yes _____ No

B. Name of firm/employer: _____

C. Address of firm/employer: _____

D. Job title: _____

E. Salary: _____ per hour, day, week, month, year (circle one)

F. Starting date: _____

G. Full-time: _____ Part-time: _____ (please check)

H. Hours work/week: _____

I. May we have your permission to send a questionnaire to your employer this coming October?

_____ Yes _____ No

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APPENDIX D
Leaver Questionnaire



CHEMEKETA
COMMUNITY
COLLEGE

4000 LANCASTER DRIVE N.E.
P.O. BOX 14007
SALEM, OREGON 97309
(503) 399-5000

July 18, 1978

Dear Former Student:

As an indication of Chemeketa's continuing interest in you, we are seeking your opinion of the college and its services to you. As a former student you can offer us an objective evaluation of our successes and inadequacies. Your reply to the enclosed questionnaire will help us to do a better job for the students who will follow you. Your reply will be combined with replies from other former students...all information will be treated confidential.

Thank you for assisting us in this survey. Please return your questionnaire in the pre-paid envelope as soon as possible. If you have any questions, please call 399-5075.

Sincerely,

/bip

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Former Student Follow-Up Questionnaire
Chemeketa Community College
Salem, Oregon 97309

SECTION A. Everyone should answer this section.

1. What was your primary objective in attending Chemeketa Community College?
(circle one)
 - a. To complete a degree or certificate leading directly to employment.
 - b. To prepare for transfer to another college after completing a degree or certificate.
 - c. To prepare for transfer to another college without completing a degree or certificate.
 - d. To take course(s) for job upgrading; may or may not complete a degree or certificate.
 - e. To take course(s) of interest to me; may or may not complete a degree or certificate.
 - f. Other (please specify) _____

2. What was your principal reason for NOT re-enrolling at Chemeketa?
(circle one)
 - a. Completed needed courses
 - b. Transportation problems
 - c. Transferred to another college
 - d. Found job in occupation related to course(s) completed at Chemeketa.
 - e. Found job.
 - f. Conflicting job hours
 - g. Financial reasons
 - h. Change of residence
 - i. Grade problems
 - j. Dissatisfaction with instruction
 - k. Dissatisfaction with content of courses
 - l. Personal/family illness or injury
 - m. Other personal/family reasons
 - n. Major not available at Chemeketa
 - o. Unsure of educational goals
 - p. College studies too time consuming
 - q. Courses not available at convenient times
 - r. Other (please specify) _____

3. Which statement best describes your feeling about your educational experience at Chemeketa? (circle one)
- a. Very satisfied
 - b. Satisfied
 - c. Neutral
 - d. Disappointed
 - e. Very disappointed
4. Please indicate how satisfied you were with the following services/activities. If you have not had an opportunity or need to use them, please mark Never Used Service. Place a check (✓) under the appropriate column.

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Never Used Services
a. Admissions-----					
b. Counseling Center Services-----					
c. Financial Aid-----					
d. Registration-----					
e. Placement-----					
f. Day Care Services-----					
g. Student Activities-----					
h. Library Services-----					
i. Veterans Services-----					
j. Time of course offerings-----					
k. Variety of course offerings-----					
l. Tutorial and Study Skills Services-----					
m. Career Information Services-----					

Please comment on any of the above areas with which you were dissatisfied.

5. Which one of the below best describes your present status? (circle one)

- a. Employed, full time
- b. Employed, part time
- c. Unemployed, seeking employment
- d. Military, full time active duty
- e. Continuing education at higher level
- f. Other (please specify) _____

6. For the training (or courses) completed at Chemeketa, please indicate:
the "most" important benefit for you _____

the "second" most important benefit for you _____

7. Did Chemeketa Community College meet your needs?

_____ Yes _____ No

8. Do you plan to return in the near future?

_____ Yes _____ No

9. How can we help you in the future? _____

SECTION B. If you have been employed since you left Chemeketa, please answer this section.

1. If you are currently employed, is your present occupation related to the courses you completed at Chemeketa?

- a. Yes, directly related
- b. Yes, closely related
- c. No

2. If no, have you been employed in an occupation related to the course you completed at Chemeketa since you left our college?

- a. Yes, directly related
- b. Yes, closely related
- c. No (if no, go to Section C)

3. Please circle below if the course(s) you took at Chemeketa helped you in your occupational area in any of the following ways. (circle all that apply)

- a. Helped to obtain job
- b. Helped performance on present job
- c. Helped advance on present job
- d. None of the above
- e. Other (describe) _____

4. How would you rate the training you received at Chemeketa in relation to its usefulness to you in performing your job?
 - a. Very good
 - b. Good
 - c. Neutral
 - d. Poor
 - e. Very poor
5. Would you recommend the course(s) taken at Chemeketa to others employed in positions similar to yours?
 - a. Yes
 - b. Undecided
 - c. No
6. Were you employed in your occupational area PRIOR to enrolling in the course(s) completed at Chemeketa?
 - a. Yes
 - b. No

SECTION C. If you have enrolled in another college since your enrollment at our college, please answer this section.

1. What is the name of your current (or most recently attended) college?
Name _____
City and State _____
2. Did you have problems transferring to the college indicated above?
 - a. Yes: What?
 1. Transferring credit hrs.
 2. Transcript problems
 3. Admission problems
 4. Other (describe) _____
 - b. No
3. How many credit hours earned at Chemeketa were not accepted at the college indicated above?
 - a. All credit hours accepted
 - b. Lost 1-3 credit hours
 - c. Lost 4-6 credit hours
 - d. Lost 7-12 credit hours
 - e. Lost 13-21 credit hours
 - f. Lost more than 21 credit hours
4. In your opinion, how well did Chemeketa prepare you for continuing your education?
 - a. Very good
 - b. Good
 - c. Neutral
 - d. Poor
 - e. Very Poor

APPENDIX E
Employer's Survey Form

CHEMEKETA COMMUNITY COLLEGE

October 13, 1978

Dear Employer:

As part of Chemeketa Community College's efforts to improve its curriculums, we are asking your cooperation in completing a survey on one of your employees. A former student in the Early Childhood Education curriculum has reported being employed by you. The attached survey has a series of questions on the former students' performance. We have asked for his/her permission and received it to send this instrument to you. We would appreciate your completing it, and returning it in the enclosed prepaid envelope within a week.

If you have any questions please call Tom Woodnutt, who assists me with student placement, at 399-5026.

Sincerely,

/bs

Encl.

CHEMEKETA COMMUNITY COLLEGE

(Employer Questionnaire)

Name of Employee _____ Date _____

Employer _____

Employer's Address _____

How long has the employee worked with your firm? _____

How many full and part-time jobs are at your location? _____ Please complete all questions on the form even if the employee no longer works for your firm. If the employee works, or has worked for your firm, please have a supervisor familiar with the work of the employee fill out the questionnaire. If there are any questions, please call Tom Woodnutt at 399-5026.

Name and Title of Supervisor _____

Signature of Supervisor doing rating _____

Employee's Job Title _____

Please indicate your rating of the employee as compared with other workers in the same work group. If the employee is the only one doing this work, please compare the work with previous employees or with your expected work standards.

Rate the school training received by the above named former Chemeketa student in relation to the job he/she is performing.

	Has all of skills needed	Has many of skills needed	Has few of skills needed	Has none of skills needed	Not able to rate
Math skills of the job	5	4	3	2	1
Technical skills of the job (why and how to perform the job)	5	4	3	2	1
Communication Skills of the job	5	4	3	2	1
Reading	5	4	3	2	1
Writing	5	4	3	2	1
Speaking	5	4	3	2	1
Work Quality	5	4	3	2	1
Relations with other employees	5	4	3	2	1

Very High
Productivity

Good
Productivity

Low
Productivity

Work Quantity 3

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Employer Questionnaire
Page 2

In comparison with others in the same work group, how would you rate the employee's overall performance. If in a small work group, please compare to past employee's.

In the top $\frac{1}{4}$ _____ In the top $\frac{1}{2}$ _____ In the bottom $\frac{1}{2}$ _____ In the bottom $\frac{1}{4}$ _____

What was the source that assisted you in hiring this employee? Private/State
Employment _____ Agency _____ Faculty Member _____ College Placement _____
other _____

1. Did the individual(s) you employed demonstrate a basic understanding of the Early Childhood Education field?

Yes _____ No _____ Comments _____

2. Were there areas in which the individual required more training?

Yes _____ No _____ Comments _____

3. Starting salary for your employee(s) is _____ per month.

4. Do you solicit opinions/suggestions from your employee(s) and are they implemented into your program?

Yes _____ No _____ Comments _____

5. Did you ask Chemeketa Early Childhood Education staff for recommendations before hiring your employee?

Yes _____ No _____ Comments _____

6. What training and/or experience in the Early Childhood Education field has the employer had? (Detail fully)

7. General Comments: _____

THANK YOU! YOUR ASSISTANCE WILL HELP US BUILD A STRONG COLLEGE FOR OUR COMMUNITY.

ERIC Clearinghouse for Junior Colleges
96 Powell Library Building
University of California
Los Angeles, California 90024

FEB 22 1980

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