

LUZERNE COUNTY COMMUNITY COLLEGE

**TECHNICAL AND SEMI-PROFESSIONAL
EMPLOYMENT SURVEY**



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LUZERNE COUNTY COMMUNITY COLLEGE

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EMPLOYMENT SURVEY

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INSTITUTE OF REGIONAL AFFAIRS
WILKES COLLEGE
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The Institute of Regional Affairs wishes to express sincere appreciation to the many respondents who took time from their busy schedules to complete and return the questionnaire. In a number of instances the survey data were rechecked by personal interview. This Technical and Semi-Professional Employment Survey would not have been possible without the assistance of the many respondents who realized that they were in a particularly strategic position to help in formulating the curriculum content of the Luzerne County Community College.

A number of respondents included comments along with the completed questionnaire when it was returned to the Institute. These brief comments will be most valuable to those developing the academic programs at the Luzerne County Community College.

A special word of thanks must be given to Dr. Wilmot F. Oliver, Dean of Technical Career Programs at the Community College, for his timely comments during the course of the Survey.

Needless to say, the Institute of Regional Affairs at Wilkes College assumes all responsibility for the data gathering and the interpretations made from the data.

Hugo V. Mailey
Director
Institute of Regional Affairs

INTRODUCTION

A. THE COMMUNITY COLLEGE

An increasingly industrial and technological society requires skills and understandings on the part of the general population that were inconceivable even a generation ago. Persons who are capable of benefiting from post-high school education appropriate to their abilities and interests, but who for whatever reasons, lack the opportunity for such education, are a loss to themselves, to the State, and to the Nation.

Educational opportunity beyond the high school is approaching a critical period. Over the next decade, greatly increased provision must be made for an increasing number of Americans who will need and desire education beyond the twelfth grade.

It is the comprehensive community college that offers the greatest possibility of moving toward the ideal of providing appropriate post-high school educational opportunities to all of our citizens. A comprehensive community college is an institution of higher education that extends to all prospective students within commuting distance the opportunity for appropriate study in a variety of curricular programs ranging from a few weeks up to two years in length.

B. MASTER PLAN IN PENNSYLVANIA

"The expansion of higher education in the next 20 years can be expected to be so great that present institutions, off-campus centers and branches, and Community Colleges will be unable to carry the load even after their expansion plans have been completed."

The consultants who prepared the Report strongly recommended that the State Board, through the Council of Higher Education, should look increasingly to the Community Colleges as the centers of local coordination and implementation of continuing education programs.

It was the thinking of those who prepared the Plan of the Council of Higher Education that Community Colleges should be authorized in new locations only after the State Board and the Council were convinced that the student potential for the next five years was sufficient, and that local financial support for operations and construction would be substantial and

continuing. The Master Plan goes on to state that their operation should be in accordance with a well-laid out plan for the particular community involved and after a complete investigation of the full range of local needs and resources had been determined by the Community College. Thus, local communities through the authorized Community College can assume quality programs in all the necessary places in the Commonwealth.

The demand for continuing education will grow rapidly in the next few years because of the changing industrial and business basis of the state's economy. It will become increasingly imperative that a person embark on a process of lifelong learning in this age of rapid technological advancement. If Pennsylvania is to be the pace-setter for the rest of the country in the field of higher adult education, then attention must be given to both technical education and cooperative programs.

Technical education primarily reflects the local scientific and engineering needs of business and heavy industry. In the years ahead, technical education programs can be expected to increase sharply and to exceed by far the capacities or present plans of existing institutions. Cooperative programs can extend the range and enlarge the program areas in which local employers and institution maintain cooperative relationships; and, they can become potential sources from which more permanent employment opportunities for youth emerge.

As one of the nation's largest, wealthiest, most urbanized, and most industrialized states, Pennsylvania can assume its rightful place on our national economy if the Community Colleges assume the responsibility for determining the nature and extent of local needs, objectives, and then establish curricular programs consistent with those local needs.

C. LUZERNE COUNTY COMMUNITY COLLEGE

Luzerne County Community College, founded in 1966, is a two-year institution of higher education established under the provisions of the Community College Act of 1963, Commonwealth of Pennsylvania, and sponsored by the County of Luzerne.

The present continuing education program embraces the concept that learning is a life long process. This program was established for the purposes of offering opportunities to study in such fields as Public Affairs, Arts, Liberal Arts, Business, Technologies, Home Skills, Physical Activities and Personal Improvement, as well as stimulating interest in continuing adult education. The College grants both an Associate Degree and a Certificate of Proficiency as an indication that the student has successfully completed all requirements for a particular curriculum, and is therefore entitled to due recognition for such achievement.

The Associate in Arts Degree is awarded to students who satisfactorily complete the Humanities and Social Science Curriculum. The Associate in Science Degree includes the areas of Business Administration, Education, General Studies, Mathematics, and Science. The Associate in Applied Science Degree is awarded for satisfactory completion of any of the following curricula: Architectural Design Technology, Business Education Technology (Accounting and Business Management Options), Commercial Art, Drafting and Design Technology, Electrical-Electronics Technology, Legal Technology, Marketing Management, and Secretarial Science Technology.

Specialization is also granted to those students who complete all requirements in the Technical-Career programs listed above.

D. THE SURVEY

This survey was requested by the Luzerne County Community College to determine the training needs for technical education in this County. The information provided in the survey will be the basis in planning for needed curricular programs and for new facilities for the College that the regional economy must expect if it is to continue its Renaissance. The data produced by the survey will also serve as an invaluable aid in restructuring programs and courses to serve the immediate needs for specialized training programs.

1. RESPONSE RATE BY GROUPS SURVEYED

The Survey findings are predicated on both returns from mail questionnaires and interviews. Although the former was used much more extensively than the latter, the sources from which the respondents were taken are many and varied. Because Luzerne County does not cover a wide metropolitan area and because the population in Luzerne County has been reasonably stable in the last 5 to 10 years, it was not necessary to resort to any type of random sampling. In all cases, names of respondents were taken either from the membership list of an organization (i. e. Luzerne County Dental Society) or the Standard List of Headings published by the Bell Telephone Company as a guide to the classified yellow pages.

The Survey was conducted on the basis of 12 categories of employer. Separate reports were made after the individual tabulations of the results of the 12 surveys. These were made available to Community College as they were completed.

The listing of the respondents are divided into four groups for purposes of discussion in this section: educational; industrial and business; medical; and professional and financial.

A. EDUCATIONAL

For a survey of technical and semi-professional employment in the libraries of Luzerne County, both public and private libraries were combined. The results taken totally are more relevant than if two groups had been examined on a separate basis, and employment characteristics are for the most purposes identical.

B. INDUSTRIAL AND BUSINESS

For the purposes of this survey, an assumption was made that the needs for technical specialized personnel in small firms are different in comparison with the needs of firms of medium and large size. Therefore, manufacturing firms were divided into firms with twenty or less employees and firms with more than twenty employees. The smaller firms were mailed questionnaires to be completed and returned by mail. The larger firms were contacted personally by a representative of the Institute of Regional Affairs.

Identification of manufacturing firms within the boundaries of Lu-

zerne County was based on data supplied by the Greater Wilkes-Barre Chamber of Commerce.

For the survey of technical and semi-professional employment in the dining establishments and with food brokers in Northeastern Pennsylvania, the establishments were chosen from the 1968 Northeastern Pennsylvania Restaurant Association Membership list, which includes members from a six county area in Northeastern Pennsylvania. This was the only listing used in the survey which included respondents outside the boundaries of the County.

C. MEDICAL

Because of the partial overlapping of their employment characteristics, hospitals and nursing homes were combined for the purposes of this survey. While ancillary employment is much more diverse in hospitals than in nursing homes, central activities possess many similarities. Despite the lack of a general picture of needs common to all hospitals surveyed, there are specific employing wants which are feasibly combined with those of nursing homes. Therefore, the mail questionnaire for the nursing home and the interviewing form for the hospitals are identical.

Considerable differences exist among hospitals and their needs for two-year trained personnel. Some of these differences need to be stressed in advance so that the interpretations may be made more meaningful.

Some hospitals maintain their own schools of nursing. Another looks to the Community College for a Cooperative Educational Program to facilitate the preparation of registered nurses. Practical nurses are obtained directly from public schools training programs, and hospitals are unanimous in praising the product. Two hospitals maintain their own facilities for training X-ray technologists, and therefore look upon the Community College as a potential competitor in this possible endeavor. Some hospitals sub-contract their food services while others operate and maintain their own food services. For the most part, patients in need of psychiatric care are sent outside Luzerne County for treatment, with the exception of referrals to Retreat Hospital.

The 1967 membership directory of both the Luzerne County Medical Society and the Luzerne County Dental Society were used to ascertain the employment needs in the medical and dental professions.

D. PROFESSIONAL AND FINANCIAL

In the survey of technical and semi-professional employees of financial institutions, questionnaires were sent to finance companies, commercial banks, and savings and loan associations. While the functions of these institutions in the economy are by no means identical, the classifications in which people work are sufficiently alike as to make a simple questionnaire valid for all three. It should be noted that some of the larger banks and savings and loan associations in the County did not respond to the questionnaire.

Luzerne County proprietorships and partnerships who provide accounting services to the public rather than accountants employed in a private capacity were surveyed. A majority of the accountants to whom questionnaires were sent possessed Commonwealth designation as Certified Public Accountants.

The legal profession was surveyed by the use of the 1967 roster of the Luzerne County Law Library Association.

Property insurers and realtors were questioned on identical forms because of the functions of each are often carried out within a single business unit. Respondents are members of the Greater Wilkes-Barre Real Estate Board supplemented by firms listed in the 1967 directory of the Bell Telephone Company of Pennsylvania in both the Wilkes-Barre and Hazleton areas.

It was found that listings of engineers such as those of the Professional Engineering Society, contained too many duplications to be useful for the purposes of this survey. In addition, engineers are classified by educational background into innumerable sub-classifications (electrical, civil, mechanical, etc.) Therefore, the data on the engineering profession is based on questionnaires sent to registered professional engineers taken from the directory of the Bell Telephone Company for Wilkes-Barre and other Luzerne County communities.

The data for the architectural profession is taken from the professional architectural firms affiliated with the Northeast Pennsylvania Chapter, American Institute of Architects.

TABLE 1
RESPONSE RATE BY CATEGORY

	<u>Questionnaires Sent</u>	<u>Questionnaires Returned & Used</u>	<u>% Used in Tally</u>
Accounting	68	19	29%
Architecture	34	18	56%
Dental	145	55	38%
Engineering	28	8	28%
Legal	286	61	23%
Librarian	24	14	58%
Mfg. Industry	184	67	36%
Medical Technology	327	69	21%
Nursing Homes & Hospitals	17	10	57%
Financial Institutions	58	20	36%
Realtors & Insurers	168	43	26%
Restaurants	<u>86</u>	<u>22</u>	<u>27%</u>
TOTAL	1,425	406	35%

A total of 1,425 questionnaires were mailed and 406 returned and used in this survey. In instances where the responses proved to be inappropriate and provided no insight for this survey, they were discarded. The overall response was 35% or slightly over one-third of the statistical groups surveyed. The largest number of questionnaires were forwarded to doctors, who also had the highest number of returns - 69. The libraries, nursing homes and hospitals, and architectural firms had the highest ratio of return, all over 50%. Surprisingly, the lowest rate of return came from the medical profession. It should be noted that only 10 of the 103 small firms made returns; whereas of the 94 large firms interviewed, 57, or 64% gave interviews.

The survey data is presented in tables and charts. Both "counts of people" and "counts of opinions" are included. "Counts of people" (current employment) reflect only the employers responding to the questionnaire. Those questions that deal with "counts of opinions" provide certain valuable insights and projections by employers of technical and semi-professional students.

Questionnaires Sent

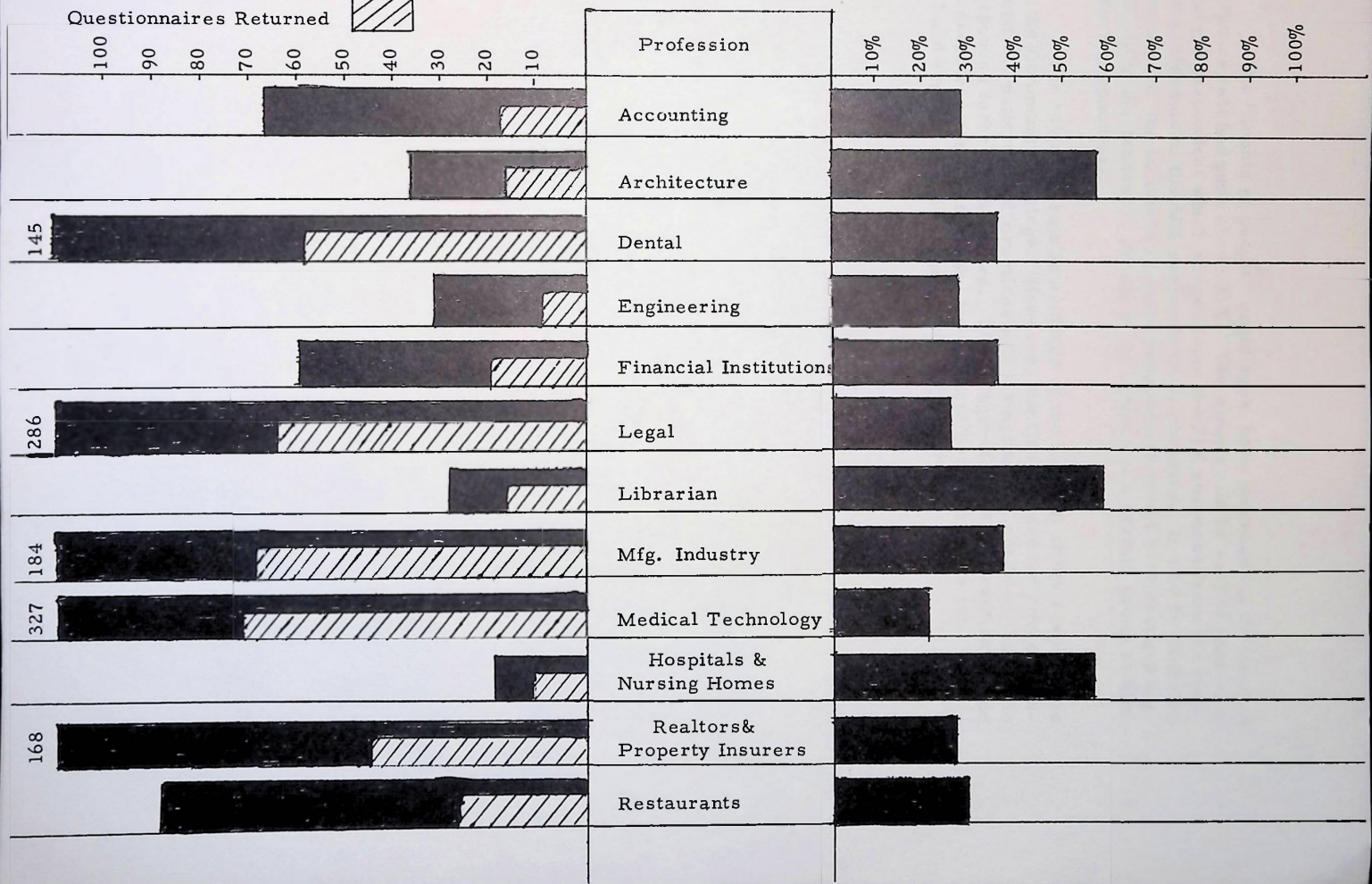


RESPONSE RATE BY CATEGORY

Questionnaires Returned



% of Returns



The "counts of people" could have been increased if the overall response rate had gone above 35%. The same could be said of each category of respondent which ranged from the 21% response from the medical profession to the 58% response from libraries. It may be doubtful, however, if the inclusion of more respondents would have changed significantly the tendency, practice, or opinion of a certain group of employer respondents.

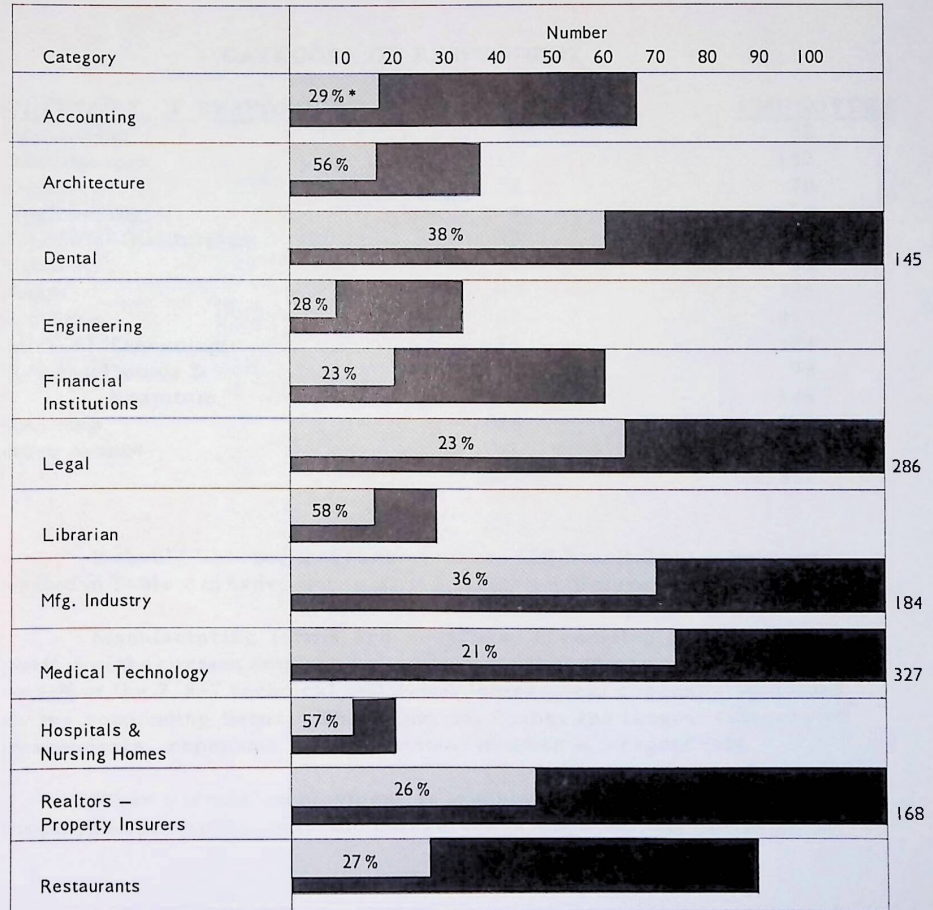
The response rate is evidence of the interest of the respondents in the Community College. However, the findings are the current employment patterns and practices and the estimated needs of those who responded to the questionnaire. Thus, logic dictates that caution should be exercised not to inflate any hypothetical estimate of the total technical and semi-professional employment picture.

CHART I

RESPONSE BY CATEGORY OF EMPLOYER

Questionnaires Sent
 Questionnaires Returned

* % Used in Tally



II. CURRENT EMPLOYMENT

The study encompasses 305 firms which reported an aggregate employment of 2,857 technical and semi-professional persons. The distribution of firms by category and the number of employees for each category are presented below:

TABLE 2
CURRENT EMPLOYMENT
BY
CATEGORY OF RESPONDENT

<u>CATEGORY OF RESPONDENT</u>	<u>FIRMS</u>	<u>EMPLOYEES</u>
Accounting	9	28
Architecture	15	146
Dental	34	70
Engineering	4	54
Financial Institutions	13	240
Library	7	53
Legal	49	185
Industry	67	973
Medical Technology	56	184
Nursing Homes & Hospitals	3 5	78 546
Realtors	28	175
Restaurants	15	125
TOTAL	305	2,857

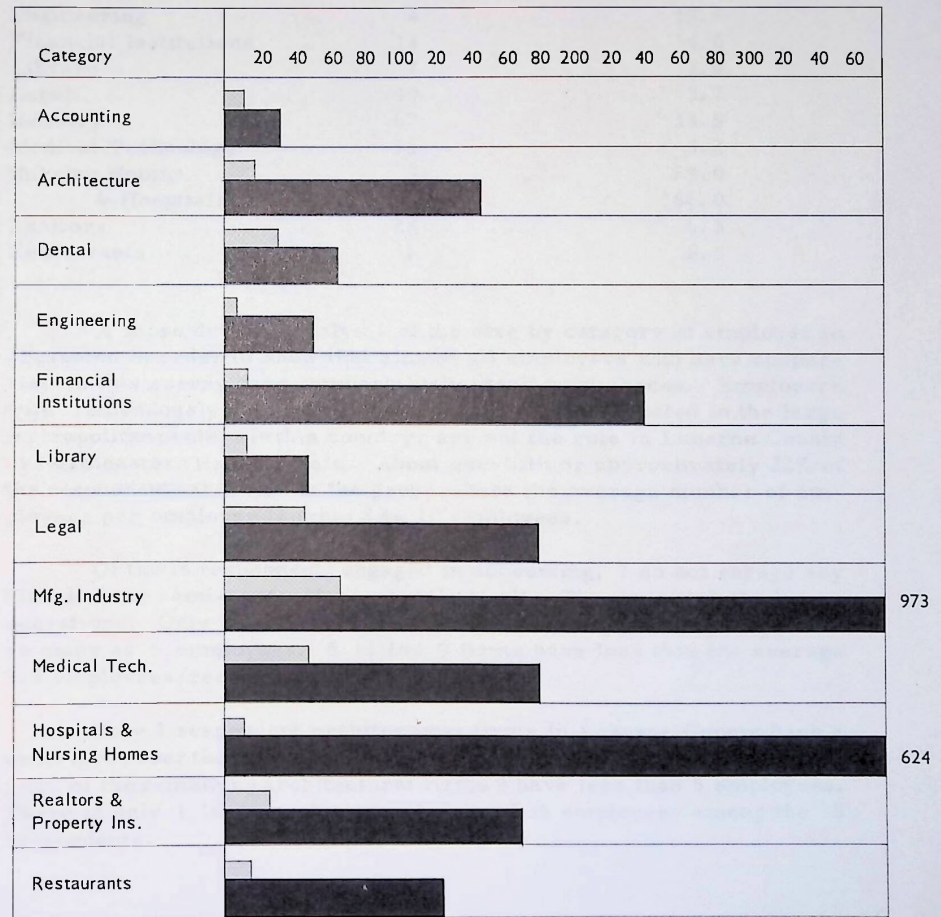
It should be noted that nursing homes and hospitals have been separated in Table 2 in order not to give a distorted picture of the category.

Manufacturing firms and hospitals, accounting for the largest portion of the current employment among the respondents, reported 1,519 or 53% of the 2,857 technical and semi-professional currently employed by the responding firms. The industrial firms, the largest category of respondents, represent 22% of the total number of respondents.

When current employment is translated into average number of employees per reply, only the categories of engineering, financial in-

CHART II
CURRENT EMPLOYMENT
BY
CATEGORY OF RESPONDENT

No. Respondent Firms
 No. Employees



stitutions, industry, nursing homes and hospitals reflect work forces that average 10 employees or higher. These 5 categories account for 67% of the employees represented in this study.

TABLE 3

<u>CATEGORY OF RESPONDENT</u>	<u>NO. OF FIRMS</u>	<u>AVERAGE NO. OF EMPLOYEES/REPLY</u>
Accounting	9	3.1
Architecture	15	9.6
Dental	34	2.1
Engineering	4	13.5
Financial Institutions	13	14.0
Library	7	7.6
Legal	49	3.7
Industry	67	14.5
Medical Technology	56	3.2
Nursing Homes & Hospitals	3 5	29.0 166.0
Realtors	28	6.3
Restaurants	15	8.3

A more detailed analysis of the size by category of employer is presented in order to show that almost all employers who have cooperated in this survey have comparatively small work forces. Employers with tremendously large work forces, as might be expected in the large metropolitan centers in this country, are not the rule in Luzerne County or Northeastern Pennsylvania. About one-fifth or approximately 22% of the respondents are found in the group where the average number of employees per employer is from 5 to 10 employees.

Of the 16 respondents engaged in accounting, 7 do not engage any technical or semi-professional people at all. They are strictly 1-man operations. Only 2 of the 9 firms included in the preceding table have as many as 5 employees. 5 of the 9 firms have less than the average 3.1 employees/respondent.

Only 4 respondent architectural firms in Luzerne County have a work force over the average 9.6 employees/respondent. As a matter of fact, of the remaining architectural firms 9 have less than 5 employees. There is only 1 large architectural firm of 35 employees among the 15 respondents.

Dental offices in Luzerne County are characteristically of small size, 2 or less employees as a general rule.

Although the preceding table lists 4 respondent engineering firms, actually 8 engineers returned questionnaires. Four of the respondents are engaged in the offering of engineering services as 1-man firms without any technical or semi-professional employees. The number of employees in the 4 firms included in the preceding table ranges from 12 to 20 employees.

There are 240 employees of a technical or semi-professional nature employed by the 13 responding financial institutions who gave meaningful responses on their work force. The picture of 14.0 employees per financial institution conceals great divergence between the large commercial banks and the small finance companies which responded to the questionnaire. However, there were 4 firms that employ 23, 24, 30 and 47 semi-professional or technical workers respectively.

There seems to be limited number of major employers in this area currently requiring people with library training, which indicates further a limited incidence of specialized employment at present in libraries of Luzerne County. Eight of the responding library institutions employ 54 technical or semi-professional employees for an average of 7.6 employees per library.

It should be noted that when the library respondents indicated the specific job classifications of their work forces, the overall total was only 35 technical or semi-professional employees. As a result of the telephone follow-up on the inconsistency on certain replies, 3 reasons were found for the difference between 53 and 35 employees: some indicated that their semi-professional employees did not fall within the job classifications listed on the questionnaire; in some instances, the librarians had counted themselves as current employees on one question but not on the other; and further, some of the respondents had included their part-time and volunteer employees in their overall work force. Of the 13 respondent libraries, only 7 indicated that they employ workers in 1 of the 3 job classifications listed on the questionnaire. On checking with those 6 respondents who indicated that they do not employ any 1 of the 3 job classifications, it was found that regular teachers in the school system are used in the library. In a few instances, volunteers are used. It should be noted that 1 library, Wilkes-Barre City School District, employs 36 or the 53 employees listed on the preceding table. It is quite obvious that this fact would skew the average employee/respondent upward.

In law offices, the number of semi-professional employees currently employed by the 49 respondents is 185. Four law offices have 12 to 14 employees; and, 14 law offices employ between 4 to 8 employees.

It should be noted that 31 of the 49 responding law firms engage 3 employees or less, below the average for the category. It is obvious that the 18 law offices which employ 4 or more employees skew the average upward.

The industrial respondents range from a low of 2 employees on the work force to 140 employees. Of the 67 respondent industrial firms, 22 employ less than the average employee/respondent indicated on the preceding table. Only 1 employer indicated a work force of over 100 employees. There were only 4 employers who indicated a work force between 50 and 100 employees, and only 8 employers stated that their work forces would fall within the category of 25 to 50 employees.

Luzerne County Medical practitioners have not followed the national trend of organizing their professional medical services into clinics which would engage semi-professional employees on a cooperative basis. Therefore, as is the case with the dentists in Luzerne County, the respondents' offices are of small size. Of the 56 respondents, 46 have either 1 or no professional employees. No more than about a dozen medical practitioners operate on a cooperative medical office basis, in which case the number of technical and semi-professional employees ranges from 4 to 8. Among the respondents were those physicians who supervise the laboratory and other departments in the hospitals. In these instances, the number of technical and semi-professional employees ranged from 10 to 16.

TABLE 4

CURRENT EMPLOYMENT

BY

JOB CLASSIFICATION

<u>PROFESSION</u>	<u>NO. OF EMPLOYEES</u>
Architectural Technologist	80
Air Conditioning & Refrigerator Technician	26
Accountant	150
Administrative Aide	84
Advertising Man	25
Building Construction Technician	8
Civil Technologist	2

Civil Technician	4
Clerk Teller	143
Commercial Artist	0
Chemical Laboratory Technician	34
Dental Assistant	51
Dental Hygienist	13
Electronic Data Processor	66
Engineering Draftsman	120
Electronic Technician	42
Electrical Technician	30
Food Manager	18
Hotel & Restaurant Manager	11
Interior Designer	3
Institutional Food Service Manager	8
Insurance Representative	76
Landscape Designer	1
Legal Secretary	135
Librarian Assistant	26
Mechanical Technologist	20
Management Trainee	2
Medical Technologist	71
Medical Secretary	52
Medical Assistant	34
Medical Records Librarian	12
Metallurgical Technician	8
Nurse, 2 yr. R.N.	305
Nurse, Licensed Practical	135
Occupational Therapist	6
Outside Salesman	403
Personnel Management Aide	8
Psychiatric Aide	0
Physiotherapist	6
Quality Control Technician	34
Real Estate Representative	61
Secretarial Accountant	159
Small Business Aide	4
Space Technologist	0
Textile Cloth Designer	0
Technical Secretary	106
Technical Report Writer	5
Textile Technician	0
Tool Designer	24
X-ray Technologist	51
TOTAL	<u>2,662</u>

There is a tremendous variance between the total work force of the nursing homes and hospitals. The 3 nursing homes reported a work force of 8, 13, and 57 semi-professional employees. The work forces of the responding hospitals included in this Report range from 60 to 350.

In the original tabulation of the replies to the question on the work force of the realtors and insurers, some respondents included not only themselves as part of the work force but also employees in regional and central offices of the insurance companies. Very few of the insurers among the respondents have a work force in excess of 6 employees. The largest work force of 30 semi-professional employees is that of an insurance company which has Wilkes-Barre as its home base. Two other respondents have work forces of 19 semi-professional employees each.

The restaurant business whose questionnaires were usable in this Survey for current employment practices have a personnel force that ranges from 1 to 30 employees, only 4 of the 15 falling below the 8.3 employee average for the category.

The inconsistency in the total number of employees between Tables 2 and 4 is due to the fact that some responding employers felt that they had technical or semi-professional employees in their work force which were not listed in the job classification listed for their respective categories in the questionnaire. As was pointed out previously, there were also some instances where some of the responding employers included themselves in the work force.

When current employment among the 305 respondents is analyzed by job classification, the greatest number of trained personnel were found to be Outside Salesman (403) and Nurse (2 yr. R. N.) (305). Other high priority job classifications showing considerable numbers of currently employed are: Secretarial Accountant (159), Accountant (150), Clerk-Teller (143), Legal Secretary (135), Nurse (LP) (135), and Technical Secretary (135).

Note should be made of the fact that the job classification of accounting was included in the questionnaire for only 3 categories of responding firms -- financial institutions, manufacturing industries, and restaurants. It should also be noted that the job description for accountant found in the Appendix in this Survey described accountant as a person who really has graduated with an undergraduate bachelor's degree. In pre-testing the questionnaire with a random sample of responding firms, there was a feeling that a 2 year accountant could serve the needs of many employers; and therefore, the job classification was listed for the 3 categories of employers mentioned above. Financial institutions rank accountants second only to clerk teller as the greatest number of employers in their work force of semi-professional employees; manu-

facturing industries rank accountant third in their work force of semi-professional employees after outside salesman and engineering draftsman; and restaurants rank accountants first in their work force of semi-professional employees.

Table 4 presents current employment in the 305 responding firms by actual number in the job classification and also by % distribution of the total number of employees in all the 305 responding firms.

III. NEED FOR SPECIALIZED TRAINING

Based upon their experience, the respondents were asked to indicate the job classification, if offered in a 2-year college program, that would satisfy a genuine educational need. No attempt was made to specify any curriculum or academic program for the respondent to evaluate.

The Table below indicates the wide range of job classifications from which the different categories of respondents could select in indicating the need for a 2-year College program. It should be noted that respondents were given the opportunity to mark from 2 to 16 job classifications in the third column on Table 5.

TABLE 5

	<u>TOTAL NO. OF RESPONDENTS</u>	<u>USEFUL QUESTIONNAIRES</u>	<u>POSSIBLE JOB CLASSIFICATIONS</u>
Accounting	16	13	2
Architecture	21	17	11
Dental	58	49	7
Engineers	10	6	14
Financial Institutions	21	19	7
Legal	67	59	2
Library	13	11	3
Manufacturing Industry	57	21	16
Nursing Homes & Hospitals	10	9	16
Medical Technology	83	72	10
Realtors	51	44	3
Restaurants	23	18	9

Some of the job classifications are for more than one category of respondent. For instance, secretarial accountant appeared as a possibility for respondents to mark on their questionnaires for 11 categories. This would naturally increase the number of respondents indicating a need for secretarial accountant.

Table 6 which gives the picture of interest of the respondents for a 2-year college program in the 50 job classifications, also shows the incidence of appearance of a job classification.

TABLE 6
INTEREST IN A 2 YEAR COLLEGE PROGRAM

BY

JOB CLASSIFICATION & INCIDENCE OF APPEARANCE

	NO. OF RESPONDENTS INDICATING INTEREST	INCIDENCE OF APPEARANCE			
		<u>1</u>	<u>2</u>	<u>3</u>	<u>over 3</u>
Architectural Technologist	52		x		
Air Conditioning & Refrigeration Technologist	11		x		
Accountant	33			x	
Administrative Aide	16			x	
Advertising Aide	6		x		
Building Construction Technologist	8		x		
Civil Technologist	14		x		
Clerk Teller	14	x			
Chemical Technologist	1	x			
Commercial Artist	2	x			
Chemical Lab Technician	4	x			
Dental Assistant	46	x			
Dental Hygienist	34		x		
Engineering Draftsman	19			x	
Electrical Technologist	4		x		
Electronic Technologist	2		x		
Electronic Data Processor	6		x		
Electrical Technician	6				
Food Manager	44	x			
Hotel & Restaurant Mgr.	11	x			
Interior Designer	4	x			
Instrumentation Technician	0				
Insurance Representative	0	x			
Institutional Food Service Mgr.	7		x		
Landscape Designer	4	x			
Legal Secretary	49	x			
Librarian Assistant	12		x		
Mechanical Technologist	14			x	
Medical Secretary	49			x	
Medical Assistant	39		x		
Medical Technologist	24		x		
Medical Records Librarian	9		x		

	NO. OF RESPONDENTS INDICATING INTEREST	INCIDENCE OF APPEARANCE			
		<u>1</u>	<u>2</u>	<u>3</u>	<u>over 3</u>
Metallurgical Technician	0				
Nurse, 2 yr. R.N.	24		x		
Nurse, Licensed Practical	14			x	
Nuclear Technologist	2	x			
Outside Salesman	10				
Occupational Therapist	1	x			
Personnel Management Aide	5			x	
Physiotherapist	12		x		
Psychiatric Aide	5		x		
Quality Control Technician	8	x			
Real Estate Representative	21		x		
Secretary Accountant	92				x
Space Technologist	0	x			
Small Business Aide	2	x			
Technical Secretary	25				x
Technical Report Writer	5				
Textile Cloth Designer	0				
Tool Designer	4	x			
X-ray Technologist	14			x	

When present and future needs for trained specialized personnel, if provided through a 2-year Community College program, are analyzed, one job classification appears to stand out above all others - Secretarial Accountant. This particular job classification is mentioned by 9 of the 12 different categories of respondents - architect, dental, engineering, financial institution, library, legal, medical technology, realtors, and restaurants. In addition, respondents were particularly interested in a 2-year specialized training program for architectural technologist, legal secretary, medical secretary, dental assistant, and food manager.

Very little or no interest in 2 years of specialized college training can be noted for space technologist, insurance representative, chemical technologist, and occupational therapist.

The data does show that for most of the job classifications, two years of specialized college training would satisfy the job requirements of employer respondents.

IV. CURRENT JOB DEMAND

For each job classification listed by employers, they were asked to indicate "the number of persons in this classification currently employed by your concern", and as well the "number of vacancies in this classification that you are currently trying to fill." When these 2 sets of data are combined, it constitutes the total "current job demand" for each of the 50 job classifications. The detail of this occupational pattern was reported by the respondents is shown in Table 7.

TABLE 7

JOB DEMAND

	<u>ATTEMPTING TO FILL</u>	<u>CURRENTLY EMPLOYED</u>	<u>JOB DEMAND</u>
Architectural Technologist	14	80	94
Air Conditioning & Refrigeration	6	26	32
Accountant	8	150	158
Administrative Aide	8	84	92
Advertising Assistant			
Building Construction Technologist		8	8
Civil Technology	5	6	11
Chemical Technologist	3	34	37
Clerk Teller	6	143	149
Chemical Lab Technician			
Commercial Artist			
Dental Assistant	6	51	57
Dental Hygienist	5	13	18
Engineering Draftsman	7	120	127
Electrical Technologist		30	30
Electronic Data Processor	2	66	68
Electronic Technologist	10	42	52
Electrical Technician			
Food Manager	6	18	24
Hotel & Restaurant Manager	6	11	17
Instrumentation Technologist			
Interior Designer			
Insurance Representative	14	8	22
Institutional Food Service Mgr.	3	0	3
Landscape Designer	1	1	2
Legal Secretary	60	135	195

Librarian Assistant	7	26	33
Mechanical Technology	2	20	22
Medical Records Librarian			
Management Trainee		2	2
Medical Technology	27	71	98
Medical Secretary			
Metallurgical Technician	1	8	9
Medical Assistants	5	34	39
Nurse, 2 yr. R.N.	86	305	391
Nurse, Licensed Practical	45	135	180
Nuclear Technologist			
Outside Salesman	6	403	409
Psychiatric Aide			
Physiotherapy	5	6	11
Personnel Management Aide	1	8	9
Quality Control Technician	2	34	36
Real Estate Representative	20	61	81
Secretarial Accountant	22	159	181
Space Technologist			
Small Business Aide			
Technical Secretary	7	106	113
Technical Report Writer	1	5	6
X-ray Technologist	3	51	54
Textile Cloth Designer			
Tool Designer			
TOTAL	<u>410</u>	<u>2460</u>	<u>2870</u>

The type of respondent having the greatest difficulty in so doing is the nursing homes and hospitals, closely followed by realtors and insurers. The complete picture is presented in the table below:

TABLE 8

Nursing homes & hospitals	138
Realtors	38
Accountants	14
Restaurants	32
Financial Institutions	30

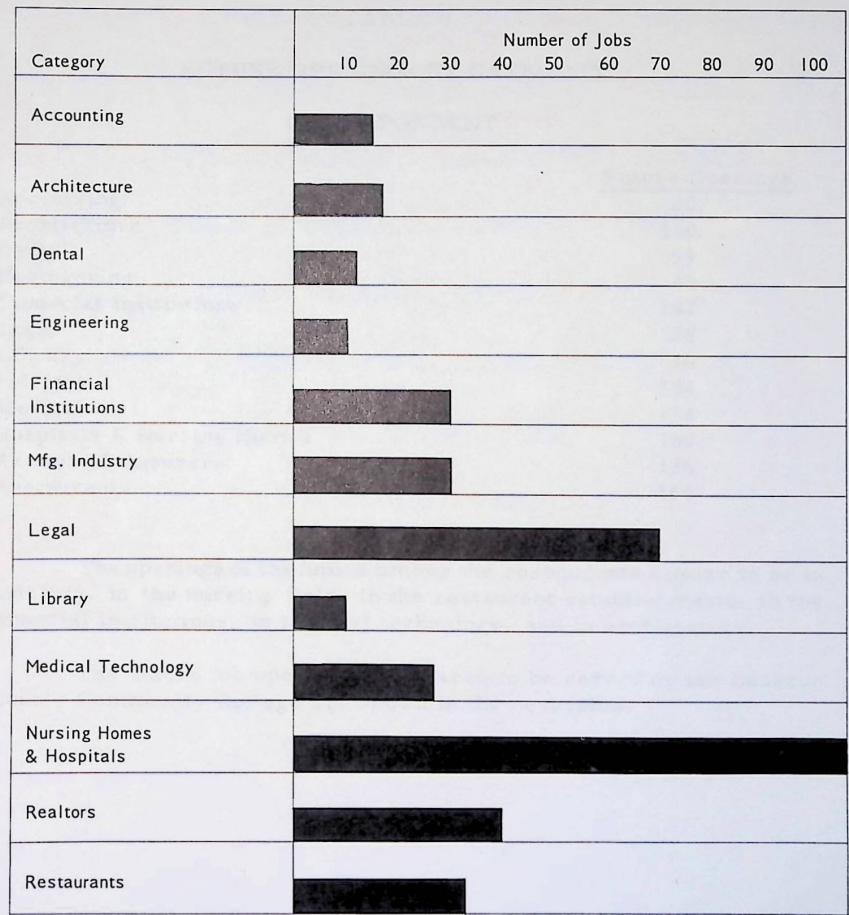
Industry	29
Medical Technology	26
Architecture	15
Dental	11
Engineering	9
Library	9
Legal	68

The 306 respondents indicated that they are presently attempting to fill 410 job positions, the highest of which is the 2-year R. N. Nurse, followed by legal secretaries.

CHART III

JOB DEMAND

CURRENT VACANCIES TO BE FILLED



V. OCCUPATIONAL NEED - FIVE YEAR ESTIMATE

Employers were asked to estimate the "total number of job openings to be filled by your firm during the next five years". The question was designed to secure answers about both turnover and additional positions to be created in the next five years.

It is evident that the respondent firms anticipate many openings for personnel with technical or semi-professional qualifications. The number of anticipated openings within the next five years are presented by category of respondent.

TABLE 9
FUTURE OPENINGS BY CATEGORY
OF RESPONDENT

	<u>Future Openings</u>	<u>Rank</u>
Accounting	20	12
Architecture	110	7
Dental	53	9
Engineering	26	11
Financial Institutions	141	4
Legal	88	8
Library	46	10
Industry	384	1
Medical	124	6
Hospitals & Nursing Homes	180	2
Realtors & Insurers	136	5
Restaurants	166	3

The openings of the future among the respondents appear to be in industry, in the nursing field, in the restaurant establishments, in the financial institutions, in medical technology, and in architecture.

The future job openings in the area to be served by the Luzerne County Community College are shown in the next table.

CHART IV

JOB DEMAND

ESTIMATED FUTURE OPENINGS

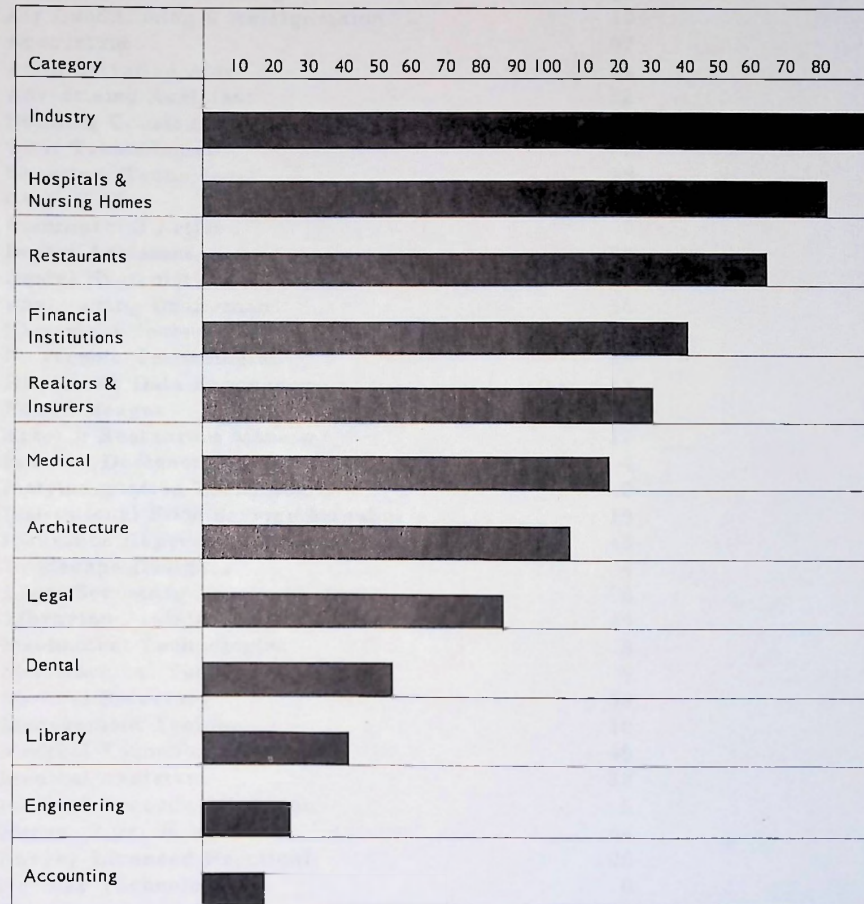


TABLE 10

FUTURE NEED - WITHIN FIVE YEARS

	<u>NO. OF ANTICIPATED JOB OPENINGS</u>
Architectural Technologist	51
Air Conditioning & Refrigeration	10
Accountant	97
Administrative Aide	61
Advertising Assistant	22
Building Construction Technologist	6
Civil Technologist	22
Chemical Technologist	38
Clerk Teller	65
Commercial Artist	0
Dental Assistant	20
Dental Hygienist	23
Engineering Draftsman	56
Electrical Technologist	23
Electronic Technologist	35
Electronic Data Processor	33
Food Manager	24
Hotel & Restaurant Manager	17
Interior Designer	4
Instrumentation Technologist	0
Institutional Food Service Manager	19
Insurance Representative	43
Landscape Designer	4
Legal Secretary	68
Librarian Assistant	40
Mechanical Technologist	8
Metallurgical Technician	9
Medical Secretary	38
Management Trainee	10
Medical Technologist	45
Medical Assistant	28
Medical Records Librarian	5
Nurse, 2 yr. R.N.	64
Nurse, Licensed Practical	100
Nuclear Technologist	0
Outside Salesman	57
Personnel Management Aide	5
Quality Control Technician	22
Real Estate Representative	61

Secretary Accountant	137
Small Business Aide	4
Space Technologist	0
Technical Report Writer	5
Technical Secretary	59
Tool Designer	12
X-Ray Technologist	7
TOTAL	1457

The table above reflects the needs of respondents for secretarial accounting by all respondents who expect 137 openings in this job classification. Nurse (LP) stood next, with an estimated demand for 100 employees in this future period.

Of the 12 job classifications with more than 50 job openings in the next five years, only two are in the applied science technology. Five of these 12 job classifications are in the business and related fields.

Fewest openings are in such para-professional specialties as building construction technologist, interior designer, medical records librarian, personnel management aide, small business aide, technical report writer, and X-ray technologist.

The respondents in the Industry category were asked not only to estimate the total number of job openings to be filled during the next five years, but additionally were asked "the single area of employment in which their greatest need could be anticipated in the next decade." The two areas in which industry foresees job openings in the next decade are salesmen, engineering, electronic technician, administrative aides, and accountants. The responses to this additional question would indicate the anticipated lack of both technical and business semi-professional by the industry category.

The following list of job categories were specifically mentioned by the industry respondents as anticipated job openings in the next decade:

TABLE 11

	<u>Two-Year Training Program</u>		<u>Participation</u>	
	Yes	No	Yes	No
<u>Semi-Professional</u>				
Accountants	XX		XX	
Administrative Aides	XX		XX	

	<u>Two-Year Training Program</u>		<u>Participation</u>	
	Yes	No	Yes	No
Administrators		X	X	
Advertising	X		X	
Chemical Lab Tech.	X		X	
Electrical Technician	X			X
Electronic Technician	XX		XX	
Engineering Draftsman	XXXX		XXX	
Field Set-Up Manager	X		X	
Managers		X	X	
Materials Control Mgr.	X		X	
Mechanical Engineers	X		X	
Metallurgical Technician	X		X	
Middle Management	X		X	
Plant Supervisors	X			X
Printing Technician	X			X
Quality Control	X		X	
Salesman	XXXXX		XXX	XX
Technical Secretaries	X		X	

VI. HARD TO FILL

Respondents were asked to answer "the hard to fill" question with regard to the job classification. A "yes" mark on the question was defined as a "vacancy which usually takes over 30 days to fill." Again, it should be noted that respondents may have indicated more than 1 job classification as a "hard to fill" opening.

The table of responding firms below shows that industry has the highest number of "hard to fill" job openings.

TABLE 12

	<u>NO. OF HARD TO FILL JOB OPENINGS</u>	<u>HOW MANY RESPONDENTS ANSWERED QUESTION</u>
Industry	88	67
Legal	55	61
Realtors	51	43
Dental	47	55
Restaurants	35	22
Engineering	21	8
Architecture	20	18
Financial Institution	14	20
Nursing Homes & Hosp.	14	10
Accounting	14	19
Library	8	14
Medical Technology	44	69

The top job classification that the 305 responding firms considered "hard to fill" are secretarial accountant, legal secretary, dental hygienist, insurance representative, technical secretary, and mechanical technologist. Note should be made that 3 of the job classifications are in the business field.

TABLE 13

NEED - HARDEST TO FILL

	<u>NO. OF RESPONDENTS INDICATING "HARD TO FILL" JOB CLASSIFICATIONS</u>
Architectural Technology	15
Administrative Aide	13
Air Conditioning & Refrigeration	4

Advertising Aide	1
Accountant	19
Building Construction Technologist	6
Civil Technologist	3
Chemical Technologist	6
Clerk Teller	3
Dental Assistants	16
Dental Hygienists	23
Engineering Draftsman	11
Electrical Technologist	11
Electronic Technologist	9
Electronic Data Processor	15
Food Manager	7
Hotel & Restaurant Manager	5
Instrumentation Technician	0
Insurance Representative	23
Institutional Food Service Manager	2
Landscape Designer	3
Legal Secretary	40
Librarian Assistant	8
Mechanical Technologist	20
Metallurgical Technician	1
Medical Secretary	19
Medical Assistant	16
Medical Records Librarian	1
Nuclear Technologist	1
Nurse, 2 yr. R.N.	7
Nurse, Licensed Practical	5
Outside Salesman	7
Personnel Management Aide	3
Quality Control Technician	16
Real Estate Representative	15
Secretarial Accountant	49
Space Technologist	0
Small Business Aide	2
Technical Secretary	20
Tool Designer	4
Technical Report Writer	3
X-ray Technologist	1

VII. TRAINING

Naturally all questions on the questionnaire are important or they would not have been included in the first place. However, the data garnered from some of the questions have a certain higher priority because of their curricular implications. One such question is the one on in-firm training provided by the respondent firms to employees after entry into employment. The question asked all categories of respondents was: "Do you conduct a training program for this classification?" It is apparent that if employers must provide such programs, then it is clear that graduates are not receiving adequate preparation for their employment.

The question was not intended to differentiate between training programs utilized by employers to upgrade present employees as against training programs used upon entry into employment. It is possible that some employers may have indicated that they conduct a training program without relating it to either the upgrading of present employees or as a pre-entry probationary requisite for permanent employment.

As may be observed by the Table on employee training, only 171 respondents in all categories of the total 462 who replied to the question on training stated that they conducted such training for one or more job classifications used in the Survey. This is slightly over one-third of the total respondents, or only 37% who provided some training to employees.

The highest number of respondents who indicated on-the-job training were the realtors and insurers, dentists, industry and the legal profession. When an in-depth analysis of the replies by these 4 categories of firms coupled with follow-up discussions with a random sample of each category, it was soon concluded no such significant or extensive training program is really conducted by any of the 4 categories or respondents mentioned above. Their training programs are really temporary expedients, and in some cases remedial, because graduates may not necessarily be ready to function in entry positions.

Further examination on the training data supported the earlier observation on the lack of extensive training programs. Among realtors and insurers, training programs are presently conducted for insurance representatives (20), secretarial accountants (12), and real estate representatives (10). In spite of the training programs conducted by this category of respondent, 30 of the 50 realtors and insurers who replied to the questionnaire expressed the opinion that a two-year Community College Program would satisfy a general educational need. The data on training in the dental profession shows that only 29 dentists out of a total

of 55 conduct any kind of on-the-job training program, 28 of whom conduct a program for dental assistants only. Although 25 of 66 industrial respondents (39%) replied affirmatively to the training question. This still appears to be a limited program over 7 job classifications, with no particular industry concentration on any one job classification.

Many law offices are apparently hiring persons with substandard qualifications and providing them with on-the-job training, as indicated by the fact that in-service training is provided by the law firms for both legal secretaries (24) and secretarial accountant(5).

If it is presumed that those respondents who did not reply to the questionnaire at all do not operate on-the-job training programs, then the limited nature of this program is brought into even sharper focus - only 171 of 1425 or about 10% of those who received questionnaires.

Employee training by responding firms is presented in the next table to show its very limited nature.

TABLE 14

TRAINING

	<u>Yes</u>	<u>No</u>	<u>No Answer</u>	<u>Total</u>	<u>% conduct on-the-job training</u>
Accountant	6	7	3	16	38%
Architectural	10	6	5	21	47.6%
Firms					
Dental Techn.	29	19	10	58	51%
Engineering	1	5	4	10	10%
Finance Cos.	12	7	1	20	60%
Legal	25	37	21	83	30%
Libraries	2	9	2	13	15%
Medical	19	53	15	87	22%
Mfg. Industry	25	41		66	39%
Nursing Homes	4	4	2	10	40%
& Hospitals					
Real Estate	30	15	5	50	60%
Restaurants	8	12	8	28	28%
TOTAL	171	220	126	462	

VIII. EDUCATIONAL BACKGROUND

One of the significant pieces of data for the growth of the Luzerne County Community College related to the sources of recruitment utilized by the respondents.

Several comments should be made when an in-depth analysis of the data on preferred educational background by respondent firms is considered by category of employer respondent.

Preferences by employers as to educational background of employees cannot be considered as a separate, isolated piece of data, unrelated to other parts of the survey. For instance, a respondent may prefer a high school graduate only because he has been compelled by circumstances (shortage of labor, etc.) to establish an on-the-job training program. Deficiencies in the formal education beyond high school in the case of dental assistant are compensated for by in-service training provided by the dentists.

Certain respondents among Savings and Loan Associations, banks, and insurers stated that they could use the high school as a source from which to recruit new employees only because of the specialized training that could be given to employees by the AIB, the Underwriters Program, etc.

When the total educational preferences by firms is considered, the obvious conclusion from that data is that the respondents prefer to recruit from a source beyond high school. However, when a single category of respondent is considered, the marked preference may be the high school graduates. One illustration will suffice to make the point. Whereas the accounting firms visualize the high school as a source from which to recruit electronic data processors, when all respondents were considered on a combined basis, the primary source is "beyond high school."

The recruitment question on the questionnaire requested the respondent to indicate his source of recruitment in terms of the educational background of the prospective employee. Four choices were offered to the respondents:

- High School
- Junior College
- University of College
- Other

After careful analysis of "other" as a preferred choice of the respondent, substantiated in part by telephone follow-ups, the preference of "other" is interpreted in the data as "beyond high school." This is particularly significant in that a substantial number of respondent firms so indicated as shown by a breakdown of the 4 choices for all job classifications:

	<u>High School</u>	<u>Junior College</u>	<u>College</u>	<u>Other</u>	<u>Total</u>
All job classifications:	308	330	320	180	1,138

"Other" as a preference by the respondents is particularly significant in the three job classifications of secretarial accountant, legal secretary, and technical secretary.

It must be remembered that in the case of certain job classifications, the educational needs for entrants are set up by Commonwealth certification requirements. Some respondents even noted that a Master's Degree is expected of some job entrants. Certainly this fact would qualify the free choice perhaps implied in the question.

When those who marked "other" as their choice of educational background for a job classification is combined with those respondents who marked "Junior College" and "University or College", the employer firms overwhelmingly prefer to recruit beyond the high school level. The two exceptions to this statement are: Nurse (LP) and Psychiatric Aide. That respondent employers look beyond the high school for the immediate source of prospective employees in almost every job classification listed in the survey is clearly demonstrated by both Table 14 and chart on Educational Background.

Job classifications wherein a substantial number of respondents prefer the high school as a recruiting source are:

- Clerk Teller
- Dental Assistant
- Insurance Representative
- Legal Secretary
- Secretarial Accountant
- Technical Secretary

TABLE 15

EDUCATIONAL BACKGROUND

Job Classification	High School	Post High School	% Distribution Respondent Preference For Post High School
Advertising Man	0	12	100%
Accountant	12	57	82.6%
Administrative Aide	7	28	80%
Air Conditioning & R.	3	9	75%
Architectural Tech.	5	20	80%
Building Construction T.	2	11	84.6%
Civil Technologist	1	7	87.5%
Chemical Lab Tech.	3	25	89.2%
Commercial Artist	0	0	0
Clerk Teller	12	13	52%
Dental Hygienist	0	22	100%
Dental Assistant	23	27	54%
Electronic Data Process	11	29	72.5%
Engineering Draftsman	6	32	84.2%
Electronic Technician	1	14	93.3%
Electrical Technician	2	10	83.3%
Food Manager	3	7	70%
Hotel & Restaurant Mgr.	3	8	72.7%
Institutional Food S. Mgr.	3	7	70%
Insurance Representative	10	23	69.6%
Interior Designer	2	9	81.8%
Library Assistant	4	8	66.6%
Legal Secretary	36	45	55.5%
Landscape Designer	1	4	80%
Medical Assistant	7	24	77.4%
Medical Technologist	0	17	100%
Medical Secretary	11	33	75%
Medical Records L.	1	9	90%
Mechanical Technologist	6	21	77.7%
Metallurgical Tech.	0	13	100%
Nurse, 2 yr. R.N.	2	15	88.2%
Nurse, L.P.	6	3	33.3%
Occupational Therapist	0	1	100%
Outside Salesman	10	18	64.2%
Personnel Mgt. Aide	5	10	66.6%
Psychiatric Aide	2	1	33.3%
Physiotherapist	1	7	87.5%
Quality Control Tech.	5	16	76.1%

Real Estate Represen.	8	23	74.1%
Small Business Aide	3	7	70%
Secretarial Accountant	59	101	63.1%
Technical Secretary	25	41	62.1%
Technical Report Wr.	1	8	88.8%
Textile Tech.	0	7	100%
Textile Cloth Designer	2	13	86.6%
Tool Designer	3	13	81.2%
X-Ray Technologist	2	6	75%
TOTAL	309	834	

The different categories of respondents reveal divergent attitudes toward the educational background of prospective employees.

The firms in the accounting field prefer high school graduates for both Electronic Data Processor and Secretarial Accountant. Most respondents in the legal profession likewise prefer employing high school graduates for both of the job categories of secretarial accountant and legal secretary. Although those respondents in the legal profession who prefer "other" did not specify, there is the distinct possibility that they may have had a business or secretarial school in mind. The business school option did not appear on the original questionnaire.

As a general attitude, architectural firms prefer to hire new personnel with college and junior college backgrounds. Respondents in Engineering leave a great area of doubt concerning optimal educational backgrounds for each job category. For most classifications which were subjects of this questionnaire, university or college baccalaureate program is sought. The high response for "other" background may indicate that respondents have in mind a technical school education short of the four-year program. Employment practices in Industry in relation to necessary educational background are very diverse. The widespread indication of junior college in responses can be interpreted to include two-year business college type programs and two-year associate degrees in technical programs of the variety given at Commonwealth campuses of the State University. In specifying levels of educational background desirable for employees, junior college or college level is preferred in almost half of the replies from the realtors and insurers, when all categories are taken together.

Respondents for the hospitals, medical professions, and dental profession made a number of comments that bear on the post high school educational background of the semi-professional employees. For certain other fields such as for Dental Hygienist and Registered Nurses, the educational needs for entrants are set up by the Commonwealth certifi-

cation requirements. Other respondents noted that in other cases (Physical Therapist, and Occupational Therapist) a Master's degree is expected on the part of job entrants. Because until recently the teaching hospital has been the principal source of registered nurses, the level of educational background sought in new employees is not too revealing, although some hospitals do indicate that for Medical Records Librarian and for Administrative Aide, a baccalaureate degree is a minimal requirement. The data on the dental profession shows an equal division between high school on the one hand and junior college and college on the other when the dental assistant position is considered. A high school education is considered sufficient in the case of dental assistants, only because deficiencies in the formal education of the new employee are compensated for by in-service training provided by the dentists. In specifying levels of educational background desirable for employees in Medical Technology, no marked preferences for any level were indicated, although junior college and college training ranked highest when all categories are taken together.

In all job classification, there is no marked specification for any particular educational level for prospective employees in Restaurants, so that it can be concluded that all levels of formal education designed on the survey are generally acceptable. It should be noted that junior college and university levels combined would constitute almost half of the combined totals of the preferences on educational background.

CHART VI

EDUCATIONAL BACKGROUND

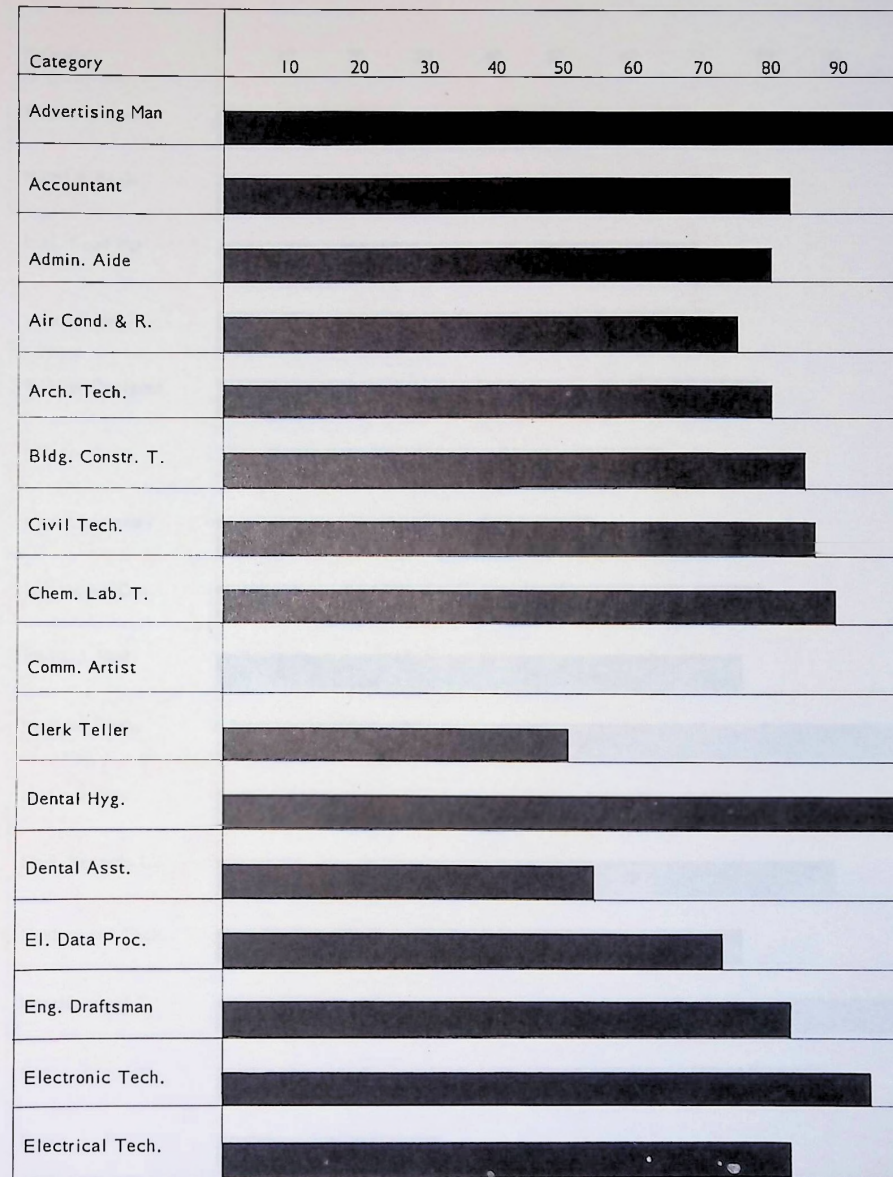
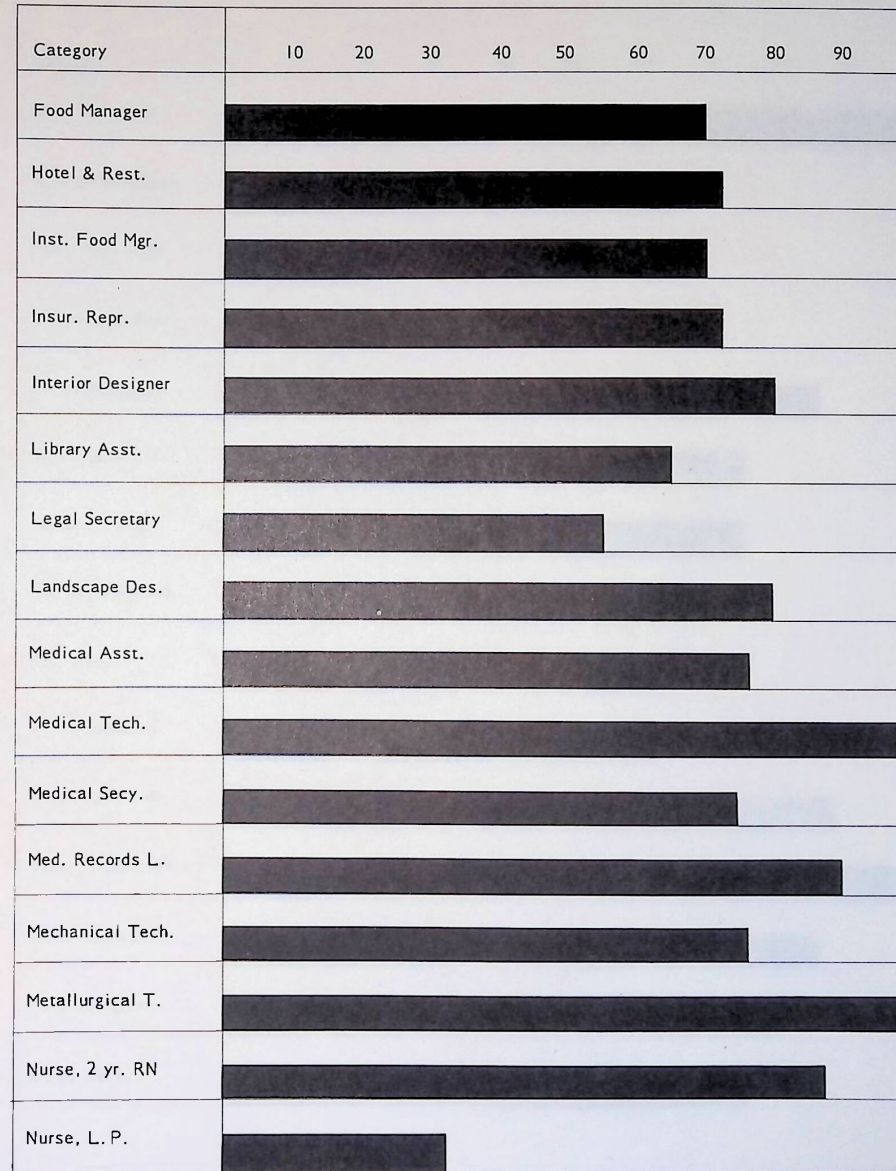


CHART VI

EDUCATIONAL BACKGROUND



IX. PREFERENCE BY SEX

Respondents were asked to answer the following question with regard to each of the job classifications listed: "If available and comparably trained, would you employ men only, women only, or both?" The table and the chart that follow indicate these 3 categories of answers by the respondents, expressed as a percent age of the total answers given about each job classification.

In 38 of the 49 job classifications on which the responding employers expressed an opinion, either men or women were acceptable to the employers.

The respondents indicated that they preferred women in only 3 job classifications, and in each case by more than two-thirds. These 3 employee fields are:

Legal Secretary	95.4%
Dental Assistant	78.0%
Clerk Teller	66.6%

The male preference by employing respondents was shown in 4 job classifications, and in 3 instances by less than half of the respondents.

Outside Salesman	62.5%
Electrical Technologist	50.0%
Bldg. Constr. Tech.	44.4%
Civil Technologist	42.8%

In 4 remaining job classifications, there is no marked preference for any one of the 3 answers to the question on preference by sex. These job classifications are:

	<u>Male</u>	<u>Female</u>	<u>Both</u>
Instrumentation Tech.	33.3%	33.3%	33.3%
Nuclear Technologist	-0-	50.0%	50.0%
Tool Designer	50.0%	-0-	50.0%

TABLE 16

PERCENTAGE DISTRIBUTION OF RESPONDENTS
ACCORDING TO SEX OF EMPLOYEES
PREFERRED BY JOB CLASSIFICATION

	<u>Male Preference</u>	<u>Female Preference</u>	<u>Both</u>
Accountant	23%	3.8%	73%
Administrative Aide	25%	2.2%	72.7%
Air Cond. & R.	38.8%	16.65	44.4%
Advertising Man	30%	-0-	70%
Architectural Tech.	39.1%	13%	47.8%
Building Constr. Tech.	44.4%	16.6%	38.8%
Chemical Tech.	20%	6.6%	73.3%
Civil Tech.	42.8%	21.4%	35.7%
Commercial Artist	--	--	--
Clerk Teller	20%	66.6%	13.3%
Dental Hygienist	2.5%	38.4%	58.9%
Dental Assistant	2.4%	78%	19.5%
Electrical Tech.	50%	6.2%	43.7%
Electronic Tech.	42.8%	7.1%	50%
Engineering Draftsman	28.9%	7.8%	63.1%
Electronic Data Proc.	10.8%	5.4%	83.7%
Food Manager	33.3%	--	66.6%
Hotel & Rest. Mgr.	33.3%	--	66.6%
Instrumentation Tech.	33.3%	33.3%	33.3%
Institutional Food Service	9%	--	90.9%
Interior Designer	21.4%	21.4%	57.1%
Insurance Repr.	33.3%	9%	57.5%
Library Assistant	--	7.4%	92.5%
Legal Secretary	4.5%	95.4%	--
Landscape Designer	23.5%	23.5%	52.9%
Mechanical Tech.	33.3%	14.2%	52.3%
Medical Assistant	1.7%	47.3%	50.8%
Medical Tech.	2.2%	25%	72.7%
Metallurgical Tech.	37.5%	--	62.5%
Nurse, 2 yr. R.N.	5.4%	27%	67.5%
Nurse, L. P.	5.2%	15.7%	78.9%
Occupational Thera.	--	--	100%
Outside Salesman	62.5%	--	37.5%
Personnel Mgt. Aide	14.2%	--	85.7%
Psychiatric Aide	--	16.6%	83.3%
Physiotherapist	2.9%	17.6%	79.4%
Real Estate Repr.	22.2%	11.1%	66.6%
Secretarial Acc.	6.6%	32.3%	60.9%
Space Tech.	--	33.3%	66.6%
Small Business Aide	33.3%	--	66.6%
Technical Secretary	5.8%	41.1%	54.9%
Technical Report Wr.	21.4%	28.5%	50%

Textile Cloth Designer	27.2%	--	72.7%
Textile Tech.	28.5%	--	71.4%
Tool Designer	50%	--	50%
X-ray Tech.	--	13.8%	86.1%

The data on respondents' preference by sex does not reinforce the old, traditional stereotype preferences, as can be seen in the case of dental hygienist (female), insurance representative (male), library assistant (female), medical assistant (female), nurse (female), X-ray technologist (female), and a number of others.

Even in those job classifications in which employers expressed either a male or female preference, there was a relatively substantial proportion of responding employers who indicated that either sex would be acceptable to them if available and comparatively trained. The only glaring exception to this was the job classification of legal secretary which received an overwhelming female preference.

X. EDUCATIONAL PROGRAM FOR COLLEGE CREDIT

The respondents were asked the question if they would be interested in working with the Luzerne County Community College in setting up an educational program for college credit. Other questions were substituted on the questionnaire in place of this question for industry respondents. Therefore, manufacturing employers are not included in the tabulation below.

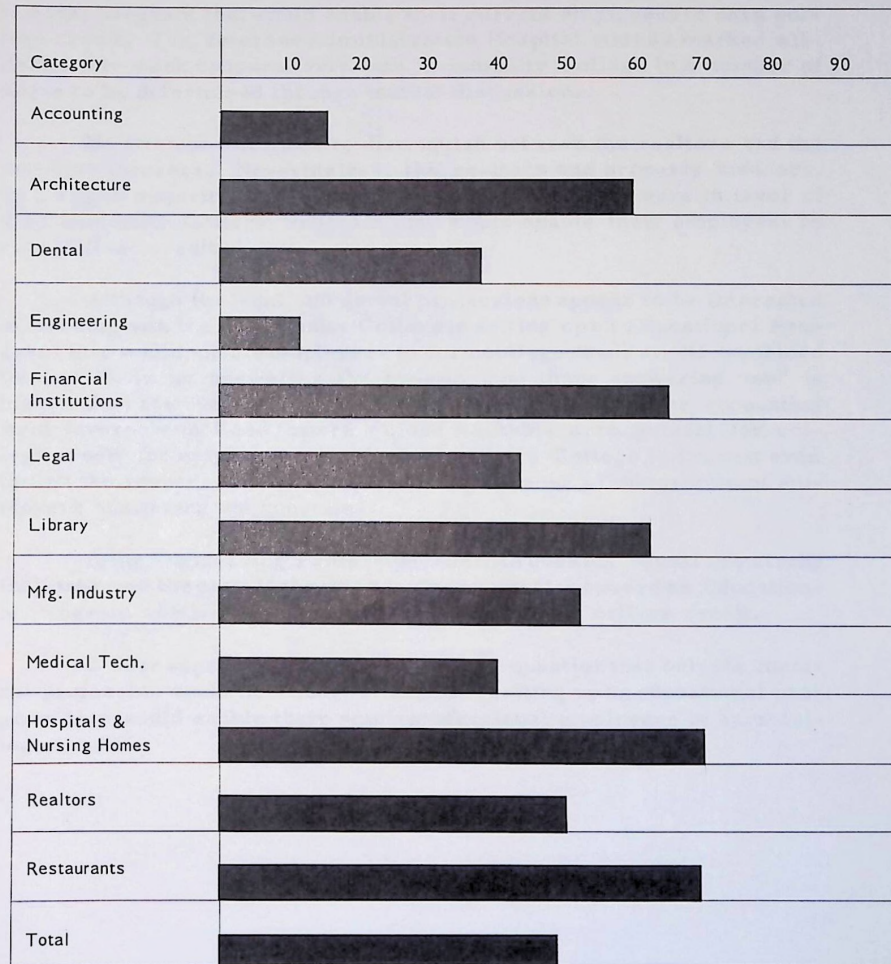
Of the 386 total respondents who returned questionnaires, 49% or 188 answered the question affirmatively. If just the respondents who gave a categorical "yes" or "no" answer to the question are counted, then 61% of 257 were interested in an educational program for college credit for their employees.

TABLE 17
EDUCATIONAL PROGRAM FOR COLLEGE CREDIT
BY CATEGORY OF RESPONDENT

	<u>Yes</u>	<u>No</u>	<u>No Answer</u>	<u>Respondents</u>	<u>% "Yes"</u>
Accounting	3	1	15	19	15.7%
Architecture	11	1	6	18	61.1%
Dental	24	18	13	55	38%
Engineering	1	2	5	8	12.5%
Financial Inst.	13	2	5	20	65%
Legal Profess.	27	20	14	61	44%
Library	9	2	3	14	64%
Mfg. Industry	31	18	8	57	54.3%
Medical Tech.	24	31	4	59	40.6%
Nursing H & H	7	2	1	10	70%
Realtors & Insur.	22	18	3	43	51%
Restaurants	<u>16</u>	<u>2</u>	<u>4</u>	<u>22</u>	<u>72.7%</u>
	188	117	82	386	49%

CHART VII

EDUCATIONAL PROGRAM
FOR
COLLEGE CREDIT



The overwhelming majority of financial institutions, libraries, restaurants, and nursing homes and hospitals who responded to the question indicated they would support an educational program enabling their employees to earn college credit with the Luzerne County Community College. Among Nursing Homes & Hospitals, seven respondents report a general interest in collaborating with the Community College in setting up an educational program. Four nursing homes and three hospitals would work in cooperation with Luzerne County in setting up an educational program that would enable their current employees to earn college credit. The Veterans Administration Hospital states a marked willingness to work cooperatively with Community College in a number of fields to be determined through mutual discussion.

No attempt was made to distinguish between the realtors and the property insurers. Nevertheless, the realtors and property insurers, by a slight majority, who replied to the questionnaire were in favor of the Community College Program that would enable their employees to earn college credit.

Although the legal and dental professions appear to be interested in working with the Community College in setting up an Educational Program that would enable employees to earn college credits, the combined total of those not answering the question and those answering "no" is higher than the "yes" replies. The number of firms in the accounting field favorably inclined toward a close workable arrangement for college credit for employees with the Community College is limited even though the responses were in affirmative, because of the paucity of employers answering the question.

In the Engineering Profession, the data does not reveal any strong inclination on the part of the engineering profession toward an Educational Program which would permit employees to earn college credit.

It does appear from the replies to the question that only the medical profession would not endorse the idea of setting up an educational program that would enable their semi-professional employees to earn college credit.

XI. COOPERATIVE WORK EXPERIENCE

When the respondents were asked if they were interested in a cooperative work experience program with the Community College, 195 of the total 396 respondents or 49.2% stated that they favored such a program. When only those respondents who gave a categorical "yes" or "no" answer were used in the tabulation, 58% or 336 respondents replied affirmatively.

COOPERATIVE WORK EXPERIENCE

	<u>Yes</u>	<u>No</u>	<u>No Answer</u>	<u>Total</u>	<u>% Yes</u>
Accounting	5	1	13	19	26.3%
Architecture	13	1	4	18	72.2%
Dental	25	17	13	55	45.4%
Engineering	3	1	4	8	37.5%
Financial Inst.	11	4	5	20	55%
Legal Profess.	27	20	14	61	44.2%
Library	9	2	3	14	64.2%
Mtg. Industry	24	32	10	67	35.8%
Med. Tech.	22	33	4	59	37.2%
Nursing H & H	7	3	--	10	70%
Realtors & Insur.	21	16	6	43	48.8%
Restaurants	<u>16</u>	<u>1</u>	<u>5</u>	<u>22</u>	<u>72.7%</u>
	195	141	61	396	49.2%

As may be seen in the table above, only the medical profession and industry do not favor any cooperative work experience program with the Community College. The largest number of affirmative answers were found in the legal profession, closely followed by the industry, the dental profession, medical profession, and realtors and insurers. There was

an overwhelming acceptance of the concept of cooperative work program among architectural firms, financial institutions, libraries, and restaurants.

Respondents were asked to indicate their interest in either of two ways for students to obtain work experience - summer and part-time employment - if they were favorably inclined toward a cooperative work experience program with the Community College.

It should not be inferred from the table below that if a respondent indicated an interest in a cooperative work experience program, he followed his answer with a selection of one of two choices presented him - summer employment or part-time employment. In a number of instances, respondents manifested an interest in the concept of cooperative work experience without expressing a preference for either summer or part-time employment. Although employers were not asked to express interest in a third way in which students might obtain work experience in a cooperative type of program - full time work during the school year for a limited period - it is possible that some respondents may have had this in mind in not marking either of the two alternatives offered them. This third possibility was not offered the respondents on the questionnaire.

	<u>Cooperative Work Experience</u>	<u>Summer Employment</u>	<u>Part-time Employment</u>
Accounting	5	2	4
Architecture	13	10	10
Dental	25	15	20
Engineering	3	1	2
Financial Institutions	11	9	10
Legal	27	25	27
Library	9	5	8
Mfg. Industry	24	17	19
Medical Tech.	22	17	17
Nursing H & H	7	5	6
Realtors & Insurers	21	13	15
Restaurants	<u>16</u>	<u>15</u>	<u>14</u>
	195	134	152

A. SUMMER EMPLOYMENT

Of the 195 respondents who expressed an interest in some type of cooperative work experience program with the Community College, 134, or 68.7% showed a disposition toward summer employment.

From this part of the data, the legal profession registered the highest numbers for summer time employment for student employees. The highest percentages of respondents who indicated a willingness to explore the possibility of summer employment were found in the legal professions, restaurants, financial institutions, and among the architectural firms.

In the overall picture, when total respondents in the survey are considered, the least interested of the respondents in summer employment were found among accounting firms and engineering firms.

B. PART-TIME EMPLOYMENT

Of the 195 respondents who looked with approval on a cooperative work experience program with the Community College, 152 or 77.9% indicated part-time employment.

Generally speaking, the data indicates that the same category of respondent who preferred summer employment as work experience also preferred part-time employment experience for Community College students. The differences in the preferences as between the two types of work experiences are minimal.

Again, the legal profession ranked highest in numbers registering a willingness to accept Community College students on a basis of part-time employment. Among architectural firms and in the medical profession, an equal number replied affirmatively to both summer and part-time employment.

XII. SUMMARY

No extensive survey is necessary to justify the existence of a community college in Luzerne County. The large enrollment in the infant institution is already sufficient justification in terms of providing an educational opportunity beyond high school for large numbers of Luzerne County residents previously denied.

The essential purpose of this survey is to provide the College with information by which the content of its programs can be directed to specific present and future needs of the community it is designed to serve.

Are the business, industrial, and professional sectors of the County sufficiently aware of the value of the College? Do current College programs fill current needs? In what occupational areas is there an unfilled demand for technically trained personnel which the College can provide? What programs are most needed on the basis of known or projected needs? Is there enough interest in the College as a source of technically trained employees to warrant modification and expansion of existing facilities and programs? Are business, industry, and the professions ready and willing to participate in the College's cooperative programs?

This report reflects a favorable and promising response from the sectors surveyed, especially since the College has not been in operation long enough to become an integral part of the plans and operations of the County's every day economic activity.

A fair and reasonable interpretation of the data indicates that:

1. The rate of response to the questionnaire, especially among larger employers, reflects definite general interest in the College.
2. Most responding employers have comparatively small work forces, with a consequently minor need for technically trained employees in the occupational fields studied.
3. A two-year community college program would satisfy a real need in many of 50 job classifications. Most current job openings requiring post-high school technical training are in business and related fields, rather than in science technology.
4. A significant number of current openings, hard to fill because of technical requirements, are found in industry, legal, medical, and nursing professions, and in realty insurance.
5. Total technical job demand (number currently employed plus openings) is highest for legal secretaries, secretary accountants, and accountants.
6. A significant number of technically qualified persons will be needed in the next five years for secretary accountant, practical nurses,

accountants, legal secretary, clerk teller, real estate and insurance, technical secretary, and engineering draftsmen.

7. Comparatively few respondents conduct employee training programs, and most such programs are insignificant or temporary expedients.

8. Either men or women are acceptable in most job categories, but most employers prefer to recruit technical personnel with post-high school training.

9. Approximately half of the respondents indicated interest in part-time and summer cooperative work programs, with the least favorable response from the medical profession and industry.

10. All job categories, except the medical profession, indicated significant interest in working with the College to set up employee training programs for credit.

EPILOGUE

Northeastern Pennsylvania has long experienced a surplus of manpower, primarily because of a steady decline of anthracite mining. In other areas of the country, a manpower shortage has existed for some time.

Recently, however, according to business and industrial leaders, Northeastern Pennsylvania is also currently experiencing a shortage of manpower. Since 1960, an average of 3,000 new jobs have been created annually to meet normal requirements. Total current unemployment in the Wilkes-Barre/Hazleton area, according to the August Labor Market Newsletter, is estimated at 4,600 representing a 2,300 decline in unemployment in a single month. The unemployment rate has reached 3.2 per cent, the lowest since 1958.

Job gains began to make significant inroads on unemployment in the Wilkes-Barre area in 1962. A projection of new job openings anticipated during the next five years points to an active labor force greater than the total available labor force projected to 1970.

Employment gains in this area in the past few years have occurred in the high wage, durable goods, manufacturing industries.

Two prime factors that affect industrial growth are industrial "mix" and local factors which encourage or inhibit growth.

In the short run, at least, there is little an area can do about its industrial mix. It either rides it to growth, if fortunate, or faces economic headaches, if unfortunate. An adverse industrial mix has retarded

much of Luzerne County's industrial development. This adverse mix has resulted from specialization in four industries: textiles and apparel manufacturing, mining, transportation, and public utilities. However, as developers look to the future, the industrial mix should cast less of a shadow on industrial redevelopment plans. To attract industry for the long run, more and more emphasis is being placed on those in which production methods are highly automated, a vast complex of equipment is used, and production per worker is high.

Regions must attempt to take advantage of factors which work in their favor, modify the effects of adverse forces, wherever possible, and avoid wasting resources trying to fight inevitable trends in technology, movements of population, and their consequences.

The second significant factor which encourages or inhibits growth is the local area effect. This factor is really an indication of the underlying strength of an economy. If an area is in a good location with respect to markets and materials, and if factors that affect the firm locally are attractive, such as quality of labor, low taxes, or good transportation, with any luck at all the area will grow. The local area effect is a reflection of the quality of its local assets.

Whether it is future industrial mix or local-area factors, training and education become of paramount importance. It is generally recognized that all of Northeastern Pennsylvania has suffered a greater than normal out-migration of college and high school graduates. This can largely be attributed to the lower wage and salary structure prevalent in the area, as well as a lack of demand for college trained "middle managers."

Whether out-migration of college graduates produced a scarcity of semi-professional personnel, or, whether the lack of job opportunities produced the out-migration, is a moot question. Furthermore, levels of educational attainment of those remaining within the region are considerably below normal. As a consequence, the whole area has a less versatile labor force in semi-professional, managerial, and supervisory positions.

This college-trained "middle management" deficit must be alleviated, not only to anticipate the change from an adverse to a favorable industrial mix, but also to strengthen a local asset. Of course, employers could engage in intensive training programs on their own, and thereby uncover and develop new employee capabilities and talents. But employers should not be expected to perform the functions of an educational system.

The educational gap must be anticipated and alleviated by local institutions of higher learning, such as the Community College.

Although the survey indicates sufficient current and future job openings in a number of technical areas to warrant inclusion in the College program now, the future impact of the recent trend toward diversification will undoubtedly open new areas of service. As graduates of the College enter the regional economy and demonstrate the quality of their training, both present and prospective employers will become aware of, and will utilize, the resources of the College. The conclusions of this survey should provide an initial starting point from which the College can demonstrate its interest in and responsiveness to the future training needs of our regional economy. Unless this start is made now, the current manpower shortage in "middle management" will be greatly aggravated.

APPENDIX A

December 1, 1967

"The New Northeast - Crossroads of The East"

The Institute of Regional Affairs at Wilkes College has undertaken to assist the Luzerne County Community College in a survey. The purpose of this study is to determine those technical skills which are most desirable to you, as employers of trained personnel.

We ask your assistance and cooperation so that a valid determination of high priority skills may be made. Community College conceives its basic role to anticipate training which you would consider most important and useful. You are in a particularly strategic position to help in formulating the curriculum content of the Luzerne County Community College for the years ahead.

Within the next few weeks, an interviewer from the Institute of Regional Affairs will visit your office to secure data on a very simple questionnaire.

Needless to say, the entire success of the survey and objectivity of the final results will depend upon your cooperation. We will appreciate your time and concern.

Sincerely,

Hugo V. Mailey
Director

HVM:amd

APPENDIX B

January 19, 1968

"The New Northeast - Crossroads of The East"

Several weeks ago you received a questionnaire from the Institute of Regional Affairs at Wilkes College. The purpose of the questionnaire was to determine those technical skills which are most desirable to you, as employers of trained personnel.

The results of the questionnaire have a very special importance and significance for the Luzerne County Community College, in that your replies will be the basis for the development of the curriculum at the Community College.

May I remind you again that the success of this survey and the objectivity of the results depend on your cooperation. If you have not returned your completed questionnaire, will you please do so immediately. If you do not have a questionnaire, call the Institute of Regional Affairs at Wilkes College, Area Code 717 824-4651, Extension 229, and a questionnaire will be mailed to you.

Sincerely,

Hugo V. Mailey
Director

HVM:sd

APPENDIX C

A TECHNICAL AND SEMI-PROFESSIONAL EMPLOYMENT SURVEY

FOR

LUZERNE COUNTY COMMUNITY COLLEGE

WILKES-BARRE, PENNSYLVANIA

NAME _____

STREET ADDRESS _____

CITY, BOROUGH, TOWNSHIP _____

QUESTIONNAIRE

1. Based on your experience, please circle any or all of the Classifications below which, if offered in a two-year college program at Luzerne County Community College, would fulfill a genuine educational need for you:

2. What is the total number of technical and/or semi-professional persons currently employed in your office?

JOB CLASSIFICATIONS

<p>3. Would a person with two years of specialized college training satisfy your job requirements in this Classification? Indicate by YES or NO in each of the Classification blocks.</p>			
<p>4. Number of persons in this Classification currently employed by you.</p>			
<p>5. Estimated total number of job openings to be filled by you in this Classification during the next 5 years.</p>			
<p>6. Number of vacancies in this Classification you are currently trying to fill.</p>			
<p>7. Is this a "hard to fill" job? (Check YES if vacancies usually take over 30 days to fill, or if the majority must be recruited from outside the Luzerne County area.)</p>			
<p>8. Do you conduct a training program for this Classification?</p>			
<p>9. Do you employ directly from: HIGH SCHOOL JUNIOR COLLEGE UNIV. or COLLEGE OTHER Indicate by YES or NO.</p>			
<p>10. If available and comparably trained, would you employ for this Classification: MEN ONLY WOMEN ONLY BOTH Indicate by YES or NO.</p>			

11. Would you be interested in working with Luzerne County Community College in setting up an educational program that would enable your semi-professional employees to earn college credit? YES _____ NO _____

12. Would you be interested in participating with Luzerne County Community College in a Cooperative Work Experience Program for semi-professional personnel? YES _____ NO _____

If YES, could these trainees work under your supervision in:

a. Summer employment? YES _____ NO _____

b. Part-time work during the school year for a limited period (for example, one semester of full-time work alternated with one semester of schooling)? YES _____ NO _____

13. To assist in training your semi-professional employees, are there additional courses or programs which should be added to the offerings of Luzerne County Community College? _____

Write here any additional comments you may care to make:

THANK YOU AGAIN FOR YOUR COOPERATION

APPENDIX D
JOB DESCRIPTIONS

Advertising Assistant - The graduate is prepared to plan or assist in advertising program to promote sales of company's products; to prepare advertising brochures and manuals for publication; to write copy, do layout work, prepare sales kits, set up displays, and write sales outlines for use by sales staff, or direct other workers performing these duties.

Accountant - The graduate is prepared to work under supervision in general accounting, budget, and cost systems; to maintain accounts and records, balance books periodically, prepare statements and interpret accounts for administrative officers; to prepare Federal, state, and local tax returns.

Administrative Aide - The graduate is prepared to execute administrative policies determined by, or in conjunction with superiors; to speak for the executive in his absence; to write memoranda outlining and explaining administrative procedures and policies to subordinate supervisory workers; to act as intermediary, to keep special files; to perform publicity work.

Air Conditioning and Refrigeration Technologist - The graduate is prepared to meet the requirements of the various branches of the refrigeration industry. Graduates may install, maintain, repair equipment used in refrigerating plants and for conditioning air and cooling water in commercial buildings, manufacturing establishments, and homes.

Architectural Technologist - The graduate assists the professional architect in planning, design and on-the-job supervision of construction for residences, commercial, industrial, and municipal structures. Under supervision, graduates prepare cost estimates, write specifications, render sketches of proposed buildings, and prepare detail drawings to be used by building contractors and craftsmen.

Building Construction Technologist - The graduate assists in the supervision and inspection of work involved in construction; works with skilled artisans, contractors, architects, and professional designers; performs routine duties such as field surveying, construction layout, and inspection; gives clerical assistance; and makes estimates and renders detail drawings under supervision to keep engineering records.

Civil Technologist (Cartography, Photogrammetry, Highway Design Sub-Groups) - The graduate assists the engineer in the planning and supervision of layout and construction of streets, highways, railroads, bridges, dams, and urban and suburban development and redevelopment projects; creates, draws, and copies maps, using drafting and drawing instruments, aerial photography, and other appropriate techniques; estimates costs, prepares specifications, and participates in surveying; and assists in scheduling construction activities and inspecting work for conformance with blueprints and specifications.

Chemical Laboratory Technician - The graduate is prepared to assist chemists and other scientists or engineers in research and development, testing, or other laboratory work; to make computations and tabulate and analyze results; to perform qualitative and quantitative chemical analysis; to assemble and use appropriate chemical laboratory equipment and instruments; to maintain industrial chemical quality control.

Commercial Artist - The graduate is prepared to create design layouts; to design and prepare charts, diagrams, posters, sketches, maps for exhibition.

Clerk-teller - The graduate performs under supervision the detailed operations carried out by banking and related establishments in dealing with customers' commercial accounts, the approval of loans, the collection of debts, the appraisal, buying and selling of collateral, the movement of securities, the planning of estates, and more generally with corporation finance, stocks and bonds, credits and collections, and saving and loan aspects of the banking business.

Dental Hygienist - The graduate is prepared to perform prophylaxis, to take and process dental radiographs, and to instruct in dental health education with patients. The dental hygienist may work either in a dental office or in schools.

Dental Assistant - The graduate is prepared to work with the dentist and under his supervision in three main areas: in his business office by handling appointments, the telephone, bills and correspondence; at the chair-side by assisting the dentist; and in the laboratory by pouring models, casting inlays, and performing other similar functions.

Electronic Data Processor - The graduate assists in the semi-professional operation and maintenance of electronic data processing equipment which is used to carry out a variety of functions in accounting offices.

Engineering Draftsman - The graduate works with engineers in projects of research, design, and development, utilizing knowledge obtained concerning machine and tool design, technical sketching, detail and assembly drawing, materials testing, metal production, metal working, heat treating, alloys and other aspects of metallurgy.

Electronic Technician - The graduate is prepared to work with engineers and physical scientists in the field of electronics which includes radio, radar, sonar, telemetering, television, and other forms of communication; industrial measuring, recording, and controlling devices; navigational equipment; missile and spacecraft guidance systems; electronic computers; and many other types of equipment using vacuum tubes and semi-conductor circuits.

Electrical Technician - The graduate is prepared to assist the professional in planning and supervision of construction and operation of electric power generating plants, transmission lines, distribution systems, illumination, wire communication, and electric transportation systems; to be knowledgeable concerning the manufacture of various types of electrical machinery and apparatus, including motors and generators, converters and regulators and switch-gear equipment.

Food Manager - The graduate is prepared to direct the operation of a retail or wholesale food establishment and to be responsible for its profitable operation; to supervise selling, maintenance and clerical employees; to make reports; to take and verify inventories; to purchase or requisition goods; to handle receipts; to supervise suitable maintenance of premises and stock; and to promote sales.

Hotel and Restaurant Manager - The graduate is prepared to plan menus; to purchase food; to maintain sanitation in food service departments; to requisition replacements of food service equipment, to keep inventories and issue supplies; to keep accounts and records and compile financial reports.

Institutional Food Service Manager - The graduate is prepared for supportive administrative position in places where large groups of people are served, such as industrial cafeterias, school cafeterias, college food services, hospitals, commercial restaurants, cafeterias, snack bars and other public eating places.

Insurance Representative (Property & Liability) - The graduate is prepared for work with insurance agencies and companies and other organizations in sales, inspection, promotion and underwriting related to insurance coverages.

Interior Design Decorator - The graduate designs and arranges domestic and commercial interiors, taking into account the coordination of furniture, textiles, accessories, lighting, and other pertinent factors in interior design; also knowledgeable with regard to business and marketing procedures; estimates costs; presents room renderings to clients for approval.

Library Assistant - The graduate is prepared, under supervision, to perform both reader services and technical services; to assist professional librarians in the selection, purchase and maintenance of the many types of library materials; and to assist the public in their use; to classify and catalog books and other loan items under professional supervision; to do research to secure information requested; and to provide semi-professional reference service to various groups of readers.

Legal Secretary - The graduate is prepared to perform general office work requiring the skills of typing, shorthand, bookkeeping, filing, and the use of office machines; to handle business correspondence, some of it independently; to make appointments and otherwise assist attorneys in the use and conservation of his time; to answer and place phone calls; and to keep office records. The legal secretary is knowledgeable with regard to legal terms and procedures.

Landscape Designer - The graduate plans and prepares drawings for ornamental development of an area of land; studies conditions of sites; such as drainage, topsoil, trees rock formations, and buildings; recommends types and location of trees, shrubs and flowers, harmonizing improvements with existing land features and architectural structures; prepares specifications and cost estimates; supervises execution of plan details, including purchase of nursery stock, statuary, and other items.

Medical Assistant - The graduate is prepared to assist the physician in the office, the examining room, and the laboratory. Maintains medical records, receives patients, makes appointments, keeps accounts, handles insurance and hospitalization forms, may take dictation. Assists the doctor during the examinations. Under supervision may assist with basal metabolism tests, electrocardiograms, blood counts, and urinalysis. Assists in medical offices, clinics, or hospitals.

Medical Technologist - The graduate is being prepared for certification after which he may perform the various chemical, microscopic, bacteriological and other medical laboratory procedures used in the diagnosis, study and treatment of disease, under the supervision of a pathologist or other qualified physician.

Medical Secretary - The graduate is prepared not only in the range of basic secretarial skills, but also in specialized terminology, office and laboratory procedures, and maintenance of medical records, which will qualify her for secretarial positions in physician's offices, clinics, hospitals, and the medical departments of large corporations.

Medical Records Librarian - The graduate is prepared to keep medical records of patients admitted to hospitals and clinics; to compile reports of admissions, births, deaths, transfers, and discharges; to maintain permanent files for record purposes; to do indexing and coding of primary and secondary diagnoses of medical histories and records following established library methods.

Mechanical Technologist - The graduate is prepared to assist the professional engineer in the design of tools, engines, machines, or industrial equipment, the supervision of mechanical industrial processes, the planning and operation of central distribution systems for heat, gas, water, or steam.

Metallurgical Technician - The graduate is prepared to examine and test metal samples to determine their physical properties; to conduct routine microscopic examinations of metals and alloys; to prepare photographs of metal samples; and to compile reports of findings; to examine metal and alloy samples to detect internal fractures, impurities and similar defects.

Nurse - The graduate is prepared to become a registered nurse; to perform bedside nursing duties requiring prescribed education, skills, and hospital experience in the care of the ill and injured persons. This is a relatively new development in the field of medical auxiliary education.

Nurse, Licensed Practical - The graduate is prepared for licensure as a practical nurse. This semi-professional graduate works under the supervision of a physician and/or professional nurse. As a member of this medical team, the practical nurse performs personal nursing care, gives some medications, charts, patients records, and renders assistance in all the basic fields of nursing and related housekeeping functions.

Occupational Therapist - The graduate works as the semi-professional member of a medical team whose purpose is to restore maximum function to mentally or physically disabled persons. Under supervision of the professional therapist, he helps to select and direct the functional, recreational, educational, and vocational activities designed to meet the specific needs of the patient as outlined by the attending physician.

Outside Salesman - The graduate is prepared to solicit business for establishment by calling door to door, following leads from management, other workers, or from listings in city and telephone directories; to explain services rendered or product sold by business establishment; to write and give orders to establishment manager; to distribute advertising literature or products or leave samples.

Personnel Management Aide - The graduate assists in the selection, training, promotion, welfare, compensation and recreation of employees, and in other employer-employee relationships.

Psychiatric Aide - The graduate is prepared to work under supervision as the semi-professional member of a medical team which includes the psychiatrist, psychologist, and psychiatric social worker; to assist in creating a therapeutic climate, along with these professionals who are concerned with the hospital care and treatment of persons suffering from mental illness or severe emotional maladjustment.

Physiotherapist - The graduate is prepared to assist, under supervision, the professional physiotherapist in the treatment of the patient's bodily disorders, gives exercises designed to correct the patient's muscle ailments and deficiencies, administers massage and other body manipulations, gives hydrotherapeutic treatments, uses various mechanical devices for the therapeutic purposes.

Quality Control Technician - The graduate is prepared to perform activities concerned with development, application, and maintenance of quality standards for processing materials into partially finished or finished material or product; to employ methods and procedures for inspection, testing and evaluation; to conduct sampling procedures, design forms for recording, evaluating, and reporting quality and reliability data, and to write instructions on use of forms.

Real Estate Representative - The graduate is prepared to sell, purchase, exchange, lease, rent and manage real property. His training is oriented toward requirements of the Commonwealth for sales and brokerage licensing. Appraisal techniques leading to professional designations are stressed.

Small Business Aide - The graduate is prepared to conduct his own business, or to assist in the efficient management and functioning of small concerns; to handle accounting, selling, production, and distribution operations.

Secretarial Accountant - The graduate is prepared to apply fundamental principles of accounting to the keeping of books and records in business and professional offices.

Secretary (Technical) - The graduate is prepared to perform general office work requiring the skills of typing, shorthand, bookkeeping, filing, and the use of office machines; to handle business correspondence, some of it independently; to make appointments and otherwise assist the executive in the use and conservation of his time; to answer and place phone calls; and to keep office records. The technical secretary is knowledgeable with regard to the specialized terminology of commercial discourse and legal procedure.

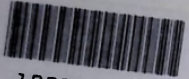
Technical Report Writer - The graduate is prepared to edit or revise proposed or previously published data; compiles various types of instructional manuals, reports, bulletins, specifications, catalogs, or other written data pertaining to maintenance, manufacturing, research, experimental engineering and general technological practice and procedure.

Textile Technician - The graduate is prepared to subject cloth, buttons, buckles, binding, webbing laces, and threads to standardized physical and chemical tests and to compare test results with samples or prepared standards, such as charts, graphs, and tables; to verify adherence to specifications; to test cloth for weight, fastness of dye, type of material, tensile strength, shrinkage, or absorbency, using special testing devices, chemicals, water, heating and drying oven, dehumidifier, and scale.

Textile Cloth Designer - The graduate is prepared to originate designs for fabrication of textile cloth, specifying weave, pattern, color, and gage of thread; to create new fabrics that meet functional requirements and fashion preferences of consumers; to develop new ideas for fabrics through study of fashion trends and knowledge of textiles and their various uses; to consult with technical and merchandising staffs; to prepare written instructions to specify such details as construction of fabric, finish to be applied and color to be used.

Tool Designer - The graduate is prepared to design broaches, milling-machine cutters, drills, and other single- or multiple-edged cutting tools, and related jigs, dies, and fixtures for production or experimental use in metal working machines; to study specifications and confer with engineering and shop personnel to resolve design problems related to material characteristics, dimensional tolerances, service requirements, manufacturing procedures, and costs of tools; to draw preliminary sketches and prepare layouts and detail drawings.

X-Ray Technologist - The graduate is prepared to perform under medical supervision a variety of duties related to the diagnostic and therapeutic utilization of X-Ray equipment; to X-Ray internal parts of the body in order to detect injury, the presence of foreign matter, malformation or malfunctioning; to assist in fluoroscopy; to assist radiologists in the preparation and use of radioactive materials; to process film and keep records of services performed for patients.



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