

**REPORT OF THE DEPARTMENTS OF
LABOR AND INDUSTRY,
EDUCATION,
ECONOMIC DEVELOPMENT, and the
VIRGINIA EMPLOYMENT COMMISSION**

Developing A Plan To Improve Apprenticeship Training And Journeyman Level Retraining

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



HOUSE DOCUMENT NO. 33

**COMMONWEALTH OF VIRGINIA
RICHMOND
1990**



COMMONWEALTH of VIRGINIA

Department of Labor and Industry
205 North Fourth Street

Carol Amato
Commissioner

P.O. Box 12064
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December 19, 1989

To: The Honorable Gerald L. Baliles, Governor of Virginia
and Members of the General Assembly

House Joint Resolution 444, agreed to by the 1989 General Assembly, instructed the State Board for Vocational Education, the Departments of Economic Development and Labor and Industry and the Virginia Employment Commission to cooperate in developing a plan to address the current and future shortages of skilled craftsmen in Virginia through expansion of the Apprenticeship Training Program, development of opportunities for high school students and potential dropouts to participate in the Apprenticeship Training Program, and retraining journeyman craftsmen affected by changing technology. In fulfilling this request, a study was conducted by representatives from the named agencies. I have the honor to submit the Study Report and recommendations for your consideration.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Carol Amato".

Carol Amato
Commissioner

Enclosures

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Report of the Committee
Studying
Apprenticeship Training and Journeyman Level Retraining (HJR 444)

INTRODUCTION

A. Background Information

The 1989 General Assembly passed House Joint Resolution 444 (HJR 444), instructing the State Board for Vocational Education, the Departments of Economic Development and Labor and Industry and the Virginia Employment Commission to cooperate in developing a plan to address the current and future shortages of skilled craftsmen in Virginia. Specified elements to be included in the plan were provisions for the expansion of the Apprenticeship Training Program administered by the Department of Labor and Industry; development of an opportunity for high school students and potential dropouts to participate in the Apprenticeship Training Program; and provision for a program to retrain journeymen craftsmen affected by changing technology (See Appendix A).

B. Purpose of the Report

The Study Committee developed a plan to address three major concerns:

1. The need to expand the Apprenticeship Training Program to meet the needs of labor shortages forecast for the year 2000 and beyond;
2. The opportunity for high school students and potential high school dropouts to participate in Apprenticeship Training Programs which would prepare them to fully participate in the labor market with appropriate skills; and
3. The need for a continuous program of journeyman craftsman retraining due to changing technology in the workplace.

C. Definitions

To clarify the use of terms and designations for purposes of this report, the Committee provides the following definitions:

1. Apprenticeship. Apprenticeship is a period of time designated for training in occupations that require skills and knowledge, maturity and independence of judgement. Training includes planned, day-by-day on-the-job supervision, appropriate related instruction in the classroom and completion of training in a trade or craft.

2. Journeyman. A journeyman is a worker who has learned a skilled trade through completion of an apprenticeship program or other form of intensive on-the-job training program.
3. Skilled Craftsman. A skilled craftsman is one who has obtained one or more years of on-the-job training and appropriate supplemental and related instruction.
4. Related Instruction. Related instruction is the classroom component of apprenticeship training, provided by the Virginia Department of Education to support classroom instruction for individuals enrolled in apprenticeship training programs.

D. National Labor Trends for the Year 2000

A number of reports have outlined changes in the labor force which are expected to occur on the national level in the twenty-first century. Workforce 2000: Work and Workers in the 21st Century, for example, cites statistics showing a gain in the number of employed workers from 122.4 million in 1986 to 139.9 million by the year 2000. The average annual gain will be between 0.9% and 1.8%, a modest growth rate when compared to the average annual gain of 2.9% during the 1970s. The major increase in jobs is expected to be felt in the service and information industries, according to this report.

In Virginia, the number of employed workers in 1986 was 2,557,000. This number is expected to increase to 3,453,000 by the year 2000, a projected average annual gain of 2.2%. During the 1970s, Virginia's average annual gain was 3.6%. When compared with the above national trends, Virginia's projected increases are higher. Figure I compares Virginia's projected increases in employment with national trends.

FIGURE I

| | Employed Workers 1986 | Employed Workers 2000 (Projected) | Projected Average Annual Gain |
|----------|--------------------------|--------------------------------------|-------------------------------------|
| National | 122,400,000 | 139,900,000 | 0.9%-1.8% |
| Virginia | 2,557,000 | 3,453,000 | 2.2% |

National worker productivity is expected to increase, in fact to double, from 0.7% per year to 1.5% per year per worker by the beginning of the next century.

Demographically, the workplace itself is expected to change. In the next 19 years, the oldest "baby boomers" will reach the earliest retirement age. Eight years ago, those in the 16-24 age

group constituted 25% of the work force, but now they are only 20% of it. By 1995, the percent of this 16-24 age group is expected to drop further, to 16%. These statistics point to an older, more experienced work force.

More than one source has indicated that the younger workers, those entering the work force for the first time, are not expected to be as well educated as needed for the future. By the year 2000, approximately 74% of Americans will finish high school, but of this percent only two-thirds will graduate with sufficient reading and mathematical skills to continue their education past high school.

American manufacturers, according to a recent study conducted for Purchasing magazine (September 14, 1989), will face a "severe shortage of skilled workers" in the next decade. Shortages have already been noticed in such occupations as electricians, welders, tool and die designers, and electronic and electrical technicians. In fact, a Bureau of Labor Statistics (BLS) study suggests that 25 million Americans will still be employed in producing goods in the next century. While unskilled jobs will be eliminated due to advances in technology, there will be an increasing need for skilled technicians to work in goods-producing industries. BLS forecasts that 2.5 million new positions which need the services of the skilled labor force will be created in the 1990s.

Because the existing labor force is aging and the skills of the younger workers replacing them are insufficient, the cost to business in terms of lost productivity and poor quality could be \$30 billion nationwide. Those who will suffer most will probably be the small industries which can least afford the training programs that larger businesses can more easily provide. Failure to address these problems could result in American loss of competitiveness in international markets of the future.

E. Virginia Labor Trends for 1995 and Limitations of the Data

While numerous studies on national labor trends are available, data on projected labor shortages for Virginia are limited. Average annual shortages and surfeits through 1995 for occupations have been calculated using data from the Virginia Employment Commission's compilation Virginia Occupational Demand, Supply and Wage Information. The Occupation Employment Statistics Program conducted by the Virginia Employment Commission and funded by BLS is expected to be updated during 1989-90 to include projections for the year 2000.

Data showing projections for 1995 reveal that shortages for skilled trades in Virginia are likely to occur in the following apprenticeable occupations:

FIGURE II

| <u>Occupation</u> | <u>Average Annual Shortage to 1995</u> |
|---|--|
| Aircraft Mechanics | 162 |
| Auto Parts Clerks & Service Dept. Managers | 81 |
| Bakers | 132 |
| Barbers | 66 |
| Boilermakers | 42 |
| Bookbinders (Printing Industry) | 107 |
| Carpenters | 701 |
| Construction Inspectors | 103 |
| Cooks & Food Preparation Workers | 8,477 |
| Dental Assistants | 190 |
| Dental Laboratory Technicians | 53 |
| Drywall Installers & Plasterers | 56 |
| Electricians & Line Installation Repairers | 257 |
| Emergency Medical Technicians | 25 |
| Firefighters & Related Workers | 143 |
| Gas & Power Plant Operators | 170 |
| Glaziers (Glassworkers) | 61 |
| Groundskeepers & Gardeners | 749 |
| Insulation Workers | 80 |
| Locksmiths | 12 |
| Maintenance Repairers | 1,102 |
| Metal Machine Workers | 289 |
| Operating Engineers (Heavy Equipment Operators) | 539 |
| Optical Goods Workers (Dispensing Opticians) | 12 |
| Painters & Paperhangers | 407 |
| Plumbers, Pipefitters & Steamfitters | 418 |
| Printers & Printshop Workers | 357 |
| Riggers (Construction rigging) | 95 |
| Safety & Quality Control Inspectors | 140 |
| Sheet & Structural Metal Workers | 309 |
| Shoemakers & Leather Workers | 25 |
| Truck & Bus Drivers | 3,239 |
| Waste & Sewage Treatment Plant Operators | 88 |
| Welders & Cutters | 125 |
| Woodworkers | 198 |

(Projected labor shortages for all occupational classifications is provided in Appendix B.)

THE WORK OF THE STUDY COMMITTEE

The Study Committee met four times. The original members of the Study Committee were: George A. Eanes, Supervisor of Apprenticeship Related Instruction, Virginia Department of Education; Preston A. Wilhelm, Assistant Director of Industrial Training, Department of Economic Development; Ben Berryman, Chief of Labor Market Information, Virginia Employment Commission; Marilyn Mandel, Director of Planning and Policy Analysis, Department of Labor and Industry; and Robert S. Baumgardner, Apprenticeship Director, Department of Labor and Industry. As the

responsible agency for Apprenticeship programs, the Department of Labor and Industry assumed the lead for purposes of preparing the Report of the Study Committee. Data on labor market trends both nationally and in the Commonwealth were reviewed. The members of the Committee considered elements to strengthen the Apprenticeship Program. Because of the involvement of several community colleges in providing the classroom instruction component of apprenticeship training and because of his knowledge of Delegate Crouch's intent in the drafting of HJR 444, the Committee sought and obtained the input of Dr. Johnnie Merritt, President of Central Virginia Community College, who advised the Committee. Occupational and technical course offerings of the Virginia Community College System were reviewed by the Committee to serve as an example of the variety of possible related instructional offerings for apprenticeship training.

FINDINGS OF THE STUDY COMMITTEE

A. The Apprenticeship System

The apprenticeship system in Virginia is maintained through the efforts of three agencies: the Department of Labor and Industry, the Department of Education and the Virginia Employment Commission.

Apprenticeship programs are administered by the Department of Labor and Industry's Apprenticeship Division. Standards for apprentice agreements are set by an eight-member Apprenticeship Council appointed by the Governor. The Executive Director of the Virginia Council on Vocational Education and the Commissioner of the Virginia Employment Commission are ex-officio members of the Council. Members serve three-year terms.

Apprenticeship programs in Virginia began before the turn of the century. The Voluntary Apprenticeship Act, Section 40.1-117 et. seq. of the Code of Virginia, was originally enacted in 1938. The statute also provides for a system of local and state joint apprenticeship committees. The Department of Labor and Industry Apprenticeship Division maintains records of all apprenticeship contracts and acts as a facilitator to encourage the establishment of new apprenticeship programs in the Commonwealth. The Division presently employs 17 full-time apprenticeship representatives.

The Department of Education provides related and supplemental classroom instruction for apprentices through a network of local school divisions and community colleges. Presently, 20 regional apprenticeship related instruction coordinators are employed through either public schools or community colleges. Funding for related instruction is provided by a combination of State and federal funding (Carl D. Perkins Vocational Education Act). Over the last two years, the total appropriation included \$1.3 million in State funds and \$700,000 in federal funds for each year of the

biennium. The Department of Education employs one individual to oversee the administration of apprenticeship related instruction programs.

According to the Department of Labor and Industry's annual reports, clients served statewide at the end of the calendar year in the Apprenticeship Program for the past three years include the following:

FIGURE III

| | 1986 | 1987 | 1988 |
|---|-------|-------|-------|
| No. apprentices in the system at the end of the calendar year | 8,168 | 8,180 | 9,463 |
| No. of different occupational fields | 174 | 155 | 174 |

(See Appendix D for a compilation of three years of apprenticeship activity by occupation group.)

The Virginia Employment Commission is the third partner in Virginia's apprenticeship training system through the operation of three Apprenticeship Information Centers (AICs) and a network of 40 local job services offices. Until 1982, AICs were federally funded. Subsequently, their activities came to an end. Reestablished in FY 1988-89 with State funding, the three centers are located in Tidewater, Northern Virginia and Richmond. These locations were established based on the need for availability of registered applicants and sponsors of apprenticeship programs determined from data provided by the Department of Labor and Industry. The centers function as central sites for the dissemination of information and services related to registered apprenticeship programs. New entrants and individuals wishing to change careers are also served. Services and information provided include occupational information and testing (General Aptitude Test Battery), specific vocational counseling, placement into unsubsidized employment and follow-up during and after training. A newsletter with a circulation of 500 is also published monthly.

During the first year of State-funded operation, the three AICs registered over 2,000 applicants and handled more than 590 apprenticeship openings representing 40 occupations. Approximately 650 applicants received assistance through the Centers, with 450 placed in apprenticeship openings. Additionally, 1,139 applicants were tested and 400 counseled. Approximately 1,200 placements are projected for the 1990-92 biennium.

In its 1990-92 initiatives, the Virginia Employment Commission provides for the addition of two AICs to serve the Southwest area; one in Roanoke and one in Bristol. A feasibility study was conducted based on need and availability of registered apprentices for the proposed expansion. Expected placements for the new AICs are expected to be 250 for the first year of the 1990-92 biennium.

As currently established, the State's Apprenticeship Program is primarily market-driven and reactive to the needs of both small and large employers throughout the Commonwealth. Small employers (employing less than 100 employees) represent the majority of businesses served.

In addition, there is no formal structure connecting the work of the three agencies which administer the different components of the system. However, the early recognition of the interdependence of the program has necessitated a close cooperative working arrangement among the three agencies.

B. High School Student Participation in Apprenticeship Programs

The Departments of Education and Labor and Industry unveiled a proposal in April, 1989 to extend and strengthen the bonds between the Apprenticeship Program and the needs of high school students. The proposal is titled "A Plan for Extending and Strengthening Apprenticeship/High School Linkages." This program was the result of a legislative study recommendation (HJR 159), "Study of the Labor Force Needs of the 1990s." Coincidentally, the new apprenticeship concept occurred simultaneously with the passage of SB 660 in 1989.

As proposed, the Plan will serve high school students who are at least 16 years of age and who want to pursue a career in a skilled trade while they complete high school. In effect, the program will enable these students to become either part- or full-time student apprentices, covered by a written Apprenticeship Agreement approved by the Apprenticeship Council in the same manner as other apprentices served by the Apprenticeship Program. Training Agreements for these students would include all services and courses or activities required to complete high school or a GED while serving an apprenticeship.

The strength of this proposal lies in its possibilities for meeting the needs of students:

- with previous training in an apprenticeable trade who want to become registered apprentices while completing high school;
- without previous vocational training who want to become registered as apprentices while completing high school;
or

-- who wish to re-enter high school as apprentices while completing high school in a regular or alternative program.

When fully operational, it is estimated that the annual cost of the related classroom instruction component of the Apprenticeship/ High School Linkage Program will be \$300,000.

To carry out the legislative recommendation to expand the Apprenticeship Program into the high schools, the Department of Labor and Industry was funded for four regional high school apprenticeship representatives and a Statewide apprenticeship coordinator in the 1989-90 budget. The Statewide coordinator has been employed, with the four regional coordinators to be in place by January 1990. Funding of related instruction for this program must be provided by the State Board for Vocational Education.

C. Journeyman Level Retraining

The Industrial Training Program, located in the Department of Economic Development, has as its mission, according to the Code of Virginia, Chapter 32.1, Section 2.1-548.8:5, to "train or retrain individuals for specific employment opportunities at new or expanding business facilities in the Commonwealth." Industrial Training functions are a marketing tool to provide an incentive to new businesses considering locations in Virginia. The program helps employers fill jobs with skilled workers.

The Program was established in 1966 as part of the Virginia Community College System and moved to the Department of Economic Development in 1986. Since the 1985-86 fiscal year, the number of projects undertaken by Industrial Training has increased 72% and the number of trainees increased from 5,042 to 7,908. The following table illustrates the growth of Industrial Training from 1985-86 to 1988-89.

Figure IV

| <u>Fiscal Year</u> | <u>No. of Programs</u> | <u>No. of Trainees</u> |
|--------------------|------------------------|------------------------|
| 1985-86 | 130 | 5,042 |
| 1986-87 | 142 | 5,517 |
| 1987-88 | 188 | 9,016 |
| 1988-89 | 223 | 7,908 |

Industrial Training was designed to serve the present and future needs of employers for a skilled work force. Retraining is also possible, provided it is needed as a result of technological changes. Requests for retraining represent only 2% of approved projects at the present time, although national experts have predicted that the need for retraining is likely to increase substantially in the future.

Services provided for employers include advertising, instructor travel/food/lodging, audio-visual, training supplies, training equipment and instruction. Training locations may include vocational-technical centers available through the Department of Education, community college campuses or employer job sites. Training programs are conducted throughout the Commonwealth.

Like the Apprenticeship Division, Industrial Training must respond to employer activities, making the most of new business opportunities entering Virginia, sometimes within a few weeks' notice.

ANALYSIS OF ISSUES RELATED TO APPRENTICESHIP TRAINING AND JOURNEYMAN LEVEL TRAINING

The Study Committee's analysis of the current Apprenticeship System and the services available for journeyman level retraining include:

A. The Apprenticeship System

- The current Apprenticeship System in Virginia is somewhat limited in its ability to respond to unanticipated needs once the school year has begun.
- State funding for related classroom instruction has increased, but with increased instructional costs there has been an average shortfall in funds available to local education agencies for the last three years of approximately 25%. In Fiscal Year 1988-89, 14.37% of the requests for classroom-related instruction funds from local jurisdictions were not met through State sources due to lack of available funding.
- For over 40 years, informal coordination of the Apprenticeship System in Virginia has existed. The variety of options and diversity of business needs suggests it is time for formalizing the coordination efforts to assist the three agencies which administer the program in order to take advantage of marketing strategies used by the Department of Economic Development to recruit industry to Virginia.
- While local governments in Virginia make use of apprenticeship programs, State agencies have traditionally not taken advantage of the Program.
- Changes in the population forecasted for the next century, such as the educational deficiencies in high school students and the increase of immigrants in the work force, have not been addressed by the apprenticeship program. Employers make requests for apprenticeship training based on short-term rather than long-term planning needs.

B. High School Student Participation in Apprenticeship Programs

- Senate Bill 660, which increased the mandatory age for students to remain in school to 18, provides for "an alternative program of study or work/study" for high school students who are at risk of dropping out of school. The proposed Apprenticeship/High School Linkage Program would assist in addressing the mandate of this legislation.
- The Department of Labor and Industry has been funded to implement the Apprenticeship/High School Linkage Program. A Statewide coordinator for the Program has been hired and four regional coordinators to work with local school divisions should be in place by January 1990. Planning efforts must be undertaken to coordinate the delivery of the educational component associated with the Apprenticeship/High School Linkage Program throughout Virginia.
- Parents and students have historically focused on college as the preferred post-secondary educational opportunity. Attention to the benefits of apprenticeship training should be communicated to superintendents, principals and high school guidance counselors, as well as parents and students.

C. Journeyman Level Retraining

- The Department of Economic Development provides training needed by business and industry seeking to locate in the Commonwealth. While a small percentage (2%) of the training now provided involves retraining due to technological advances, this amount can be expected to increase.
- Industrial Training must be flexible to deal with the needs of business, which does not operate on an annual, biennial or fiscal year basis. Business decisions are normally made within weeks and Industrial Training must be able to provide training, apprenticeship included, to meet the needs of business.
- To remain competitive with other states, Virginia must continue to offer economic advantages. Training services are a necessary part of Virginia's marketing strategy.

RECOMMENDATIONS

To enable Virginia's apprenticeship training and journeyman level retraining programs to operate in a coordinated fashion, the Study Committee provides the following recommendations:

1. Prepare for the existing and future training needs of businesses and industry and training opportunities for apprentices by promoting and expanding on-the-job training and related classroom experiences.

The following activities will be necessary in order to meet this recommendation:

- Provide computer literacy training in all appropriate trades.
- Develop teacher in-service training for instructors of Apprenticeship Related Instruction.
- Promote the Apprenticeship Program through a marketing program of informational and promotional materials.
- Develop an introductory course to apprenticeship at the high school level with consideration of a similar course offered at the middle school level.
- Address instructional disparities among local programs through the use of electronic media.
- Provide ESL (English as a second language) instruction through apprenticeship programs to address the needs of non-English speaking trainees.

2. Coordinate the economic development needs of supplying trained labor to meet the needs of new businesses and expansion of businesses in a timely manner with State agencies (Departments of Labor and Industry, Education and Economic Development and Virginia Employment Commission) involved in apprenticeship training so that program services and training activities can provide a responsive supply of labor.

The following activities must be addressed in order to ensure that this recommendation is met:

- Develop a Memorandum of Agreement between the Departments of Education, Economic Development, Labor and Industry and the Virginia Employment Commission that delineates the services and resources of each agency related to the broad economic needs of the Commonwealth.
- Expand the role of the Department of Economic Development in 1) developing materials which can be used by the Department of Economic Development emphasizing the availability of apprenticeship training, marketing Virginia and industry retention; and 2) the retention of industry in Virginia through available training and retraining due to technological changes.
- Increase opportunities for business, industry and apprentices by addressing demographic disparities.
- Further identify journeyman retraining needs through a study of journeymen to be conducted by the Department of Labor and Industry which will involve appropriate

agencies such as the Virginia Employment Commission, the Department of Economic Development, the Center for Innovative Technology, the Virginia Community College System and the Department of Education.

3. Assist local education agencies in meeting the requirements of Senate Bill 660 by providing alternative educational objectives for students who are at risk of dropping out of school, who are gifted and talented, or who have dropped out of school, by coordinating the Apprenticeship/High School Linkage Program with business and industry and the public schools.

The following activity will meet the requirements of this recommendation:

- Develop a plan of action to coordinate apprenticeship program development with local school superintendents. The plan would emphasize the use of apprenticeship training with local school divisions. Issues covered by local school plans should include, but not be limited to the following:
 - a. Provision of financial and personnel resources to local education agencies to assist in administering the Program.
 - b. The role of State agencies, i.e., the Department of Labor and Industry, the Virginia Employment Commission and the Department of Education, in providing resources to manage and administer the Program.
 - c. Informational activities to assist high school counselors in their role to reach high school students and parents.
 - d. Emphasize the availability of apprenticeship training among student populations including dropouts and potential dropouts and the talented and gifted.

4. Expand the use of the State's apprenticeship program within the several State agencies of the Commonwealth that have need of maintaining a skilled labor force through the development of administrative agreements to institute apprenticeship programs to train the skilled labor force needed by the State. The Department of Personnel and Training should coordinate the identification of State agencies which could make the best use of apprenticeship training programs.

CONCLUSION

Because of the needs of business and industry in the next century, the time has come to increase the efforts of apprenticeship and journeyman retraining efforts in the Commonwealth. The plan recommended by the Study Committee will provide the coordination necessary to effectively address the future workplace needs. The Study Committee also recommends to the Governor and the Members of the General Assembly that they mandate this Plan for implementation beginning with the 1990-92 biennium.

GENERAL ASSEMBLY OF VIRGINIA -- 1989 SESSION

HOUSE JOINT RESOLUTION NO. 444

Requesting the State Board for Vocational Education, the Virginia Employment Commission and the Departments of Economic Development and Labor and Industry to develop a plan to improve apprenticeship training and journeyman level retraining.

Agreed to by the House of Delegates, February 6, 1989

Agreed to by the Senate, February 23, 1989

WHEREAS, all national and state indicators point to a shortage of qualified skilled craftsmen; and

WHEREAS, Virginia's construction industry is experiencing shortages of skilled craftsmen while experiencing substantial growth and is importing skilled craftsmen from other states; and

WHEREAS, the existing qualified skilled work force is experiencing difficulty in keeping pace with advancing technology; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That General Assembly of Virginia recognizes these problems and requests that the State Board for Vocational Education, the Virginia Employment Commission, the Department of Economic Development and the Department of Labor and Industry coordinate in the development of a plan to address the existing and anticipated future shortages of skilled craftsmen in the Commonwealth of Virginia, specifically to include the following:

(A) Provide for the expansion of the Apprenticeship Training Program to address the labor shortages predicted for the year 2000 and beyond, and

(B) Provide an opportunity for high school pupils, and potential high school dropouts, to enroll in an Apprenticeship Training Program, and

(C) Provide for a continuous program of retraining for journeymen craftsmen who are affected by changing technology.

The participating agencies shall issue a report of the coordinated plan to the Governor and the members of the General Assembly by November 15, 1989 pursuant to the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

APPENDIX B

Projected Labor Shortages and Surfeits for Virginia, 1995

| Occupation | Projected Total Employment, 1995/1 | Average Annual Job Openings/2 | Average Annual Supply Trained/2 | Average Annual Shortage | Average Annual Surfeit |
|---|------------------------------------|-------------------------------|---------------------------------|-------------------------|------------------------|
| Accountants, Auditors | 24,353 | 1,234 | 1,641 | | 407 |
| Adult & Voc. Ed. Teachers | 13,321 | 596 | 402 | -194 | |
| Advertising & Public Relations | 3,263 | 157 | 571 | | 414 |
| Aerospace Engineers | 2,431 | 99 | 150 | | 51 |
| Agriculture & Food Scientists | 300 | 17 | 256 | | 239 |
| Air Traffic Controllers | 1,536 | 43 | 2 | -41 | |
| *Aircraft Mechanics | 3,704 | 165 | 3 | -162 | |
| Airline Pilots & Navigators | 4,205 | 123 | not available | not available | |
| Animal Service Workers | 3,927 | 229 | 109 | -120 | |
| Architects | 2,146 | 95 | 323 | | 228 |
| Auto Parts & Service Dept. Mgrs. | 3,518 | 200 | 119 | -81 | |
| *Automobile Mechanics | 28,798 | 1,223 | 1,467 | | 244 |
| *Auto Body & Related Repairers | 5,264 | 186 | 492 | | 306 |
| *Bakers | 2,797 | 132 | 0 | -132 | |
| Bank Tellers, Collectors & Credit Clerks | 23,070 | 1,128 | 106 | -1022 | |
| *Barbers | 943 | 73 | 7 | -66 | |
| Bartenders | 8,335 | 514 | 510 | -4 | |
| Biological Scientists | 2,347 | 133 | 1,248 | | 1115 |
| *Boilermakers | 1,442 | 63 | 21 | -42 | |
| *Bookbinders | 2,963 | 115 | 8 | -107 | |
| Bookkeepers & Clerks | 66,888 | 3,388 | 3,416 | | 28 |
| Brickmasons & Stonemasons | 8,238 | 312 | 451 | | 139 |
| Broadcasting Technicians | 1,147 | 8 | 38 | | 30 |
| *Butchers & Meatcutters | 11,528 | 435 | 483 | | 48 |
| *Carpenters | 22,869 | 1,148 | 447 | -701 | |
| Chemical Engineers | 1,393 | 53 | 140 | | 87 |
| Chemists, ex. Biochemists | 2,308 | 77 | 402 | | 325 |
| Child Care Workers | 7,812 | 789 | 413 | -376 | |
| *Civil Engineering Tech., Party Chief and Surveyers | 5,544 | 185 | 286 | | 101 |
| Civil Engineers | 6,286 | 296 | 352 | | 56 |
| Clergy | Not Available | Not Available | 157 | Not Available | |
| Clinical & Medical Lab. Technol. & Technicians | 6,828 | 337 | 146 | -191 | |
| Commercial Artists | 3,659 | 212 | 140 | -72 | |
| *Computer & Peripheral Equip. Op. | 12,145 | 482 | 2,259 | | 1777 |
| Computer Systems Analysts | 24,927 | 2,293 | 1,140 | -1153 | |
| *Construction Inspectors | 2,148 | 105 | 2 | -103 | |
| *Construction Laborers & Helpers | 6,264 | 260 | 639 | | 379 |
| *Cooks & Food Prep. Workers | 151,855 | 9,448 | 971 | -8477 | |
| Corrections & Law Enf. Officers | 23,412 | 1,065 | 371 | -694 | |
| Court Clerks | 900 | 48 | 29 | -19 | |
| Curriculum Specialists | 1,128 | 41 | 219 | | 178 |
| Data Entry Keyers | 8,187 | 279 | 2,270 | | 1991 |
| Data Processing Equip. Repairers | 2,681 | 99 | 575 | | 476 |
| *Dental Assistants | 4,732 | 254 | 64 | -190 | |
| Dental Hygienists | 1,911 | 112 | 70 | -42 | |
| *Dental Lab. Technicians | 1,119 | 66 | 13 | -53 | |
| Dentists | 1,977 | 78 | 100 | | 22 |

Projected Labor Shortages and Surfeits for Virginia, 1995

| Occupation | Projected Total Employment, 1995/1 | Average Annual Job Openings/2 | Average Annual Supply Trained/2 | Average Annual Shortage | Average Annual Surfeit |
|--|------------------------------------|-------------------------------|---------------------------------|-------------------------|------------------------|
| Designers | 6,087 | 246 | 179 | -67 | |
| *Diesel Engine Mechanics | 5,486 | 212 | 507 | | 295 |
| Dieticians & Dietetic Technicians | 1,420 | 83 | 102 | | 19 |
| *Drafters | 8,438 | 237 | 945 | | 708 |
| *Drywall Installers & Plasterers | 2,754 | 61 | 5 | -56 | |
| Economists | 1,277 | 67 | 1,041 | | 974 |
| *Electrical & Electronic Equip. Installers | 9,950 | 241 | 1,122 | | 881 |
| *Electrical & Electronic Engineer. Technologists & Technicians | 16,528 | 618 | 813 | | 195 |
| Electric & Electronic Engineers | 20,563 | 965 | 525 | -440 | |
| *Electricians & Line Installation Repairers | 26,321 | 925 | 668 | -257 | |
| EEG & EKG Technicians | 762 | 37 | Not Available | Not Available | |
| Elementary & Preschool Teachers | 49,813 | 2,700 | 1,708 | -992 | |
| *Emergency Medical Technicians | 735 | 35 | 10 | -25 | |
| *Farm Equipment Mechanics | 349 | 12 | 299 | | 287 |
| Financial Officers & Managers | 2,849 | 206 | 386 | | 180 |
| *Firefighters & Related Workers | 7,564 | 193 | 50 | -143 | |
| Flight Attendants | 5,584 | 371 | 1 | -370 | |
| Forestry Conserv. Scientists & Workers | 757 | 37 | 312 | | 275 |
| *Gas & Power Plant Operators | 3,262 | 172 | 2 | -170 | |
| General Office Workers | 118,285 | 5,753 | 2,581 | -3172 | |
| Geologists | 1,142 | 43 | 148 | | 105 |
| *Glaziers | 1,435 | 62 | 1 | -61 | |
| *Groundskeepers & Gardeners | 15,889 | 1,172 | 423 | -749 | |
| Guards & Police, Private | 25,832 | 2,311 | 48 | -2263 | |
| *Hairdressers & Cosmetologists | 11,404 | 600 | 1,187 | | 587 |
| Health Record Technologists & Technicians | 573 | 40 | 56 | | 16 |
| *Heating, Air Cond. & Refrig. Mechanics | 4,863 | 188 | 329 | | 141 |
| Hotel & Motel Mgrs. & Workers | 8,202 | 493 | 262 | -231 | |
| Housekeepers, Hotel & Motel | 1,832 | 118 | 0 | -118 | |
| Industrial Technologists | 436 | 14 | 287 | | 273 |
| Industrial Engineers | 3,460 | 146 | 153 | | 7 |
| *Industrial Machine Repairers | 10,192 | 296 | 327 | | 31 |
| Industrial Truck & Equip. Oper. | 10,551 | 148 | 216 | | 68 |
| *Insulation Workers | 2,928 | 94 | 14 | -80 | |
| Insurance Workers | 19,715 | 969 | 16 | -953 | |
| Laundry Machine Operators | 10,875 | 573 | 1 | -572 | |
| Lawyers | 7,231 | 394 | 1,008 | | 614 |
| Legal Technicians | 2,835 | 178 | 149 | -29 | |
| Librarians | 5,813 | 332 | 26 | -306 | |
| Library Clerks & Technicians | 3,827 | 161 | 5 | -156 | |
| Licensed Practical Nurses | 15,859 | 928 | 540 | -388 | |
| *Locksmiths | 278 | 12 | 0 | -12 | |
| Maids, Janitors | 102,114 | 6,326 | 7 | -6319 | |
| *Maintenance Repairers | 35,057 | 1,399 | 297 | -1102 | |

Projected Labor Shortages and Surfeits for Virginia, 1995

| Occupation | Projected Total Employment, 1995/1 | Average Annual Job Openings/2 | Average Annual Supply Trained/2 | Average Annual Shortage | Average Annual Surfeit |
|---|------------------------------------|-------------------------------|---------------------------------|-------------------------|------------------------|
| Managers, General | 193,352 | 10,519 | 336 | -10183 | |
| Mathematical Scientists & Tech. | 4,363 | 188 | 601 | | 413 |
| *Mechanical Engineering Tech. | 1,319 | 52 | 438 | | 386 |
| Mechanical Engineers | 7,190 | 296 | 466 | | 170 |
| Medical Assistants | 2,959 | 194 | 118 | -76 | |
| Medical Facility Administrators | 3,871 | 244 | 62 | -182 | |
| *Metal Machine Workers | 24,280 | 813 | 524 | -289 | |
| *Metallurgical & Materials Engineers | 283 | 16 | 49 | | 33 |
| Mining Engineers | 190 | 9 | 15 | | 6 |
| Morticians & Embalmers | 1,072 | 65 | 21 | -44 | |
| Music, Art & Recreational Therapists & Assistants | 495 | 25 | 47 | | 22 |
| Musicians & Composers | 1,378 | 74 | 171 | | 97 |
| Nuclear Engineers | 586 | 18 | 25 | | 7 |
| Nursing & Other Medical Aides | 40,746 | 2,238 | 1,195 | -1043 | |
| Occupational Therapists & Assists | 582 | 31 | 45 | | 14 |
| *Office Machine & Cash Register Servicers | 3,627 | 197 | 496 | | 299 |
| Office Supervisors & Managers | 16,238 | 790 | 630 | -160 | |
| *Operating Engineers | 14,732 | 543 | 4 | -539 | |
| *Optical Goods Workers | 1,344 | 69 | 57 | -12 | |
| *Painters & Paperhangers | 8,625 | 418 | 11 | -407 | |
| Personnel Training & Labor Relations Specialists | 14,315 | 629 | 60 | -569 | |
| Pharmacists & Specialists | 5,223 | 287 | 98 | -189 | |
| Photographers & Phot. Process Workers | 3,334 | 157 | 61 | -96 | |
| Physical Therapists & Assists. | 1,882 | 100 | 96 | -4 | |
| Physicians | 9,634 | 372 | 346 | -26 | |
| Physicists | 1,884 | 73 | 199 | | 126 |
| *Plumbers, Pipefitters & Steamfitters | 15,028 | 570 | 152 | -418 | |
| *Precision Instrument Repairers | 1,268 | 45 | 78 | | 33 |
| *Printers & Printshop Workers | 13,401 | 622 | 265 | -357 | |
| Programmers | 19,284 | 883 | 6,614 | | 5731 |
| Psychologists | 2,674 | 121 | 1,419 | | 1298 |
| Radio, T.V. & Other Announcers | 1,230 | 25 | 685 | | 660 |
| Radiologic Technicians | 2,997 | 160 | 62 | -98 | |
| Receptionists & Telephone Operators | 29,910 | 1,701 | 4 | -1697 | |
| Real Estate Sales & Related Workers | 13,641 | 840 | 189 | -651 | |
| Recreation Managers & Workers | 14,738 | 831 | 154 | -677 | |
| Registered Nurses | 42,888 | 2,801 | 1,774 | -1027 | |
| Reporters, Writers & Editors | 8,816 | 484 | 1,890 | | 1406 |
| Respiratory Therapists & Assists. | 1,065 | 56 | 77 | | 21 |
| Restaurant Managers | 17,532 | 1,132 | 170 | -962 | |
| *Riggers | 2,402 | 104 | 9 | -95 | |
| Safety & *Quality Control Inspect | 3,875 | 144 | 4 | -140 | |

Projected Labor Shortages and Surfeits for Virginia, 1995

| Occupation | Projected Total Employment, 1995/1 | Average Annual Job Openings/2 | Average Annual Supply Trained/2 | Average Annual Shortage | Average Annual Surfeit |
|---|------------------------------------|-------------------------------|---------------------------------|-------------------------|------------------------|
| Sales Workers & Managers | 309,686 | 17,248 | 6,043 | -11205 | |
| School Administrators, Elem. & Secondary | 5,668 | 248 | 384 | | 136 |
| Secondary School Teachers | 41,384 | 1,808 | 1,033 | -775 | |
| Secretaries | 123,485 | 5,652 | 3,759 | -1893 | |
| *Sheet & Structural Metal Workers | 14,501 | 465 | 156 | -309 | |
| *Shoemakers & Leather Workers | 1,201 | 41 | 16 | -25 | |
| *Small Engine Repairers | 263 | 11 | 109 | | 98 |
| Social Workers | 12,005 | 617 | 380 | -237 | |
| Special Education Teachers | Not Available | Not Available | 214 | Not Available | |
| Speech Pathologists & Audiologists | 1,473 | 68 | 148 | | 80 |
| *Tailors & Dressmakers | 2,161 | 136 | 264 | | 128 |
| Teacher Aides | 14,322 | 561 | 420 | -141 | |
| Textile Workers | 28,508 | 749 | 10 | -739 | |
| Traffic, Shipping, Receiving & Stock Clerks | 72,228 | 2,505 | 3 | -2502 | |
| *Truck & Bus Drivers | 89,716 | 3,241 | 2 | -3239 | |
| *Upholsterers | 1,427 | 55 | 260 | | 205 |
| Urban & Regional Planners | 689 | 27 | 348 | | 321 |
| Veterinarians | 327 | 16 | 79 | | 63 |
| Vocational & Educational Counselors | 4,611 | 230 | 288 | | 58 |
| Waiters, Waitresses & Related Workers | 71,869 | 3,792 | 610 | -3182 | |
| *Water & Sewage Treatment Plant Operators | 2,440 | 111 | 23 | -88 | |
| Water Transportation Workers | 1,057 | 45 | 272 | 227 | |
| *Welders & Cutters | 14,781 | 461 | 336 | -125 | |
| *Woodworkers | 11,200 | 385 | 187 | -198 | |

*Apprenticeship Program Trades

1 Data based on 1984 employment estimates provided by the Virginia Employment Commission.

2 Available openings and supply trained are for the 1984-1995 period.

Appendix C

Members of the Study Committee

From the State Board for Vocational Education:

George A. Eanes, Supervisor of Apprentice Related
Instruction, Department of Education

From the Department of Economic Development:

Preston A. Wilhelm, Assistant Director of Industrial
Training

From the Department of Labor and Industry:

Marilyn Mandel, Director of Planning and Policy Analysis
Robert S. Baumgardner, Apprenticeship Director

From the Virginia Employment Commission:

Ben Berryman, Chief of Labor Market Information

Staff:

Jennifer S. Wester, Management Analyst
Department of Labor and Industry

Special thanks to Dr. Johnnie Merritt, President of Central
Virginia Community College, as a provider of related instruction
and for sharing his knowledge of the patron's intent, the late
Delegate Joseph P. Crouch.

APPRENTICE ACTIVITY BY OCCUPATION GROUP
1986

| Occupation | Begin- ning Period | New Appren- tices | Rein- state- ments | Can- cella- tions | Sus- pen- sions | Com- ple- tions | End of Period | Sponsors of Occup. |
|---|--------------------------|-------------------------|--------------------------|-------------------------|-----------------------|-----------------------|---------------------|--------------------------|
| Drafter (Architectural) | 4 | 0 | 0 | 0 | 0 | 2 | 2 | 1 |
| Research Mechanic | 3 | 2 | 0 | 0 | 0 | 0 | 5 | 1 |
| Electrical Technician | 9 | 4 | 0 | 1 | 0 | 3 | 9 | 1 |
| Electronic Technician | 15 | 11 | 0 | 1 | 0 | 5 | 20 | 11 |
| Instrument Technician | 2 | 3 | 0 | 1 | 0 | 1 | 3 | 1 |
| Engineering Aide | 5 | 1 | 0 | 1 | 0 | 0 | 5 | 4 |
| Drafter (Civil) | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 4 |
| Mechanical Engineering Technician | 12 | 4 | 0 | 0 | 0 | 1 | 15 | 2 |
| Drafter (Mechanical) | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 7 |
| Metallurgical Technician | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| Quality Control Technician | 22 | 7 | 1 | 3 | 0 | 3 | 24 | 3 |
| Party Chief (Surveyor) | 59 | 74 | 0 | 19 | 1 | 2 | 110 | 32 |
| Instrument Surveyor Assistant | 2 | 9 | 0 | 0 | 0 | 0 | 11 | 10 |
| Materials Engineer | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Test Technician | 44 | 16 | 1 | 4 | 0 | 20 | 37 | 1 |
| Horticulturist | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| Photographer | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| Building Inspector | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Industrial Waste Inspector | 2 | 1 | 0 | 1 | 0 | 0 | 2 | 1 |
| Recording Engineer | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Materials Coordinator | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Auto Parts Clerk | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Optician (Dispensing) | 101 | 119 | 0 | 34 | 1 | 34 | 147 | 195 |
| Commercial Food Equipment Technician | 2 | 1 | 0 | 1 | 0 | 0 | 2 | 2 |
| Chef | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Cook | 121 | 85 | 2 | 29 | 1 | 16 | 142 | 33 |
| Cook (Institutional) | 29 | 17 | 0 | 11 | 0 | 1 | 32 | 10 |
| Meat Cutter | 18 | 5 | 1 | 7 | 0 | 1 | 14 | 9 |
| Barber | 31 | 32 | 0 | 24 | 2 | 13 | 44 | 131 |
| Commetologist | 441 | 496 | 2 | 256 | 2 | 197 | 475 | 998 |
| Psychiatric Aide | 23 | 0 | 0 | 3 | 0 | 17 | 2 | 1 |
| Shoe Repairer | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Firefighter | 7 | 0 | 0 | 0 | 0 | 0 | 7 | 1 |
| Plater | 13 | 2 | 0 | 4 | 0 | 0 | 11 | 4 |
| Electric Instrument Mechanic Chemical | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Molder | 9 | 1 | 1 | 1 | 0 | 1 | 9 | 2 |
| Baker | 36 | 30 | 1 | 16 | 0 | 6 | 44 | 20 |
| Chlorinator Operator | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 1 |
| Mechinist | 590 | 251 | 6 | 87 | 0 | 149 | 606 | 254 |
| Maintenance Machinist | 14 | 5 | 0 | 1 | 0 | 0 | 17 | 13 |
| Mold Maker Die (Casting & Plastic Molding) | 3 | 0 | 0 | 0 | 0 | 1 | 2 | 2 |
| Tool Maker | 6 | 1 | 0 | 0 | 0 | 1 | 6 | 7 |
| Tool & Die Maker | 47 | 34 | 0 | 1 | 0 | 30 | 45 | 44 |
| Grinder Operator (Surface & Tool) | 8 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Grinder Set-Up Operator | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Machine Set-Up Operator | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Blacksmith | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 2 |
| Machine Operator | 15 | 0 | 0 | 5 | 0 | 1 | 2 | 1 |
| Inspector (Metal Fabricating) | 19 | 14 | 0 | 0 | 0 | 0 | 33 | 1 |
| Metal Fabricator | 64 | 14 | 1 | 22 | 0 | 9 | 48 | 12 |
| Inspector | 3 | 5 | 0 | 1 | 0 | 0 | 7 | 3 |
| Auto Mechanic | 37 | 11 | 0 | 11 | 0 | 11 | 26 | 71 |
| Construction Equipment Mechanic | 21 | 0 | 0 | 1 | 0 | 0 | 20 | 13 |
| Truck Mechanic | 11 | 2 | 0 | 1 | 0 | 1 | 11 | 21 |
| Transmission Mechanic | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 2 |
| Outside Mechanist | 231 | 52 | 0 | 10 | 0 | 23 | 250 | 8 |
| Farm Equipment Mechanic | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 8 |
| Diesel Mechanic | 24 | 6 | 0 | 6 | 0 | 2 | 22 | 11 |
| Fuel Injection Mechanic | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| Maintenance Machine Repairer | 3 | 0 | 0 | 0 | 0 | 1 | 2 | 2 |
| Welding Equipment Repairer | 8 | 1 | 0 | 1 | 0 | 0 | 6 | 1 |
| Treatment Plant Mechanic | 24 | 0 | 0 | 11 | 0 | 7 | 14 | 2 |
| Gunsmith | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 3 |
| Assembly Technician | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Office Machine Servicer | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 4 |
| A/C Installer-Servicer | 8 | 1 | 0 | 0 | 0 | 0 | 1 | 2 |
| Industrial A/C Mechanic | 11 | 5 | 0 | 5 | 0 | 0 | 13 | 20 |
| Refrigeration Mechanic | 94 | 36 | 0 | 7 | 0 | 10 | 109 | 43 |
| Maintenance Mechanic | 266 | 162 | 3 | 34 | 1 | 23 | 296 | 133 |
| Millwright | 60 | 11 | 0 | 3 | 0 | 7 | 61 | 20 |
| Industrial Sewing Machine Repairer | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| Cylinder Press Operator | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 3 |
| Rotogravure Press Operator | 41 | 6 | 0 | 22 | 0 | 5 | 20 | 2 |
| Web Press Operator | 29 | 3 | 0 | 1 | 0 | 16 | 13 | 9 |
| Offset Press Operator | 31 | 16 | 0 | 20 | 1 | 1 | 25 | 7 |
| Folding Machine Operator | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Bindery Worker | 37 | 28 | 0 | 2 | 0 | 20 | 43 | 4 |
| Plate Finisher | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Cabinetmaker | 24 | 28 | 0 | 11 | 0 | 5 | 36 | 23 |
| Loft Worker | 24 | 1 | 0 | 0 | 0 | 6 | 19 | 1 |
| Wood Patternmaker | 5 | 1 | 0 | 2 | 0 | 1 | 3 | 9 |
| Metal Patternmaker | 9 | 3 | 0 | 0 | 0 | 2 | 10 | 5 |
| Engineering Technician (Aerospace Model Development) | 4 | 2 | 0 | 0 | 0 | 0 | 6 | 1 |
| Jeweler | 2 | 5 | 0 | 0 | 0 | 2 | 5 | 3 |

APPRENTICE ACTIVITY BY OCCUPATION GROUP
1966

| Occupation | Beginning Period | New Apprentices | Reinstatements | Cancellations | Suspensions | Completions | End of Period | Sponsors of Occup. |
|--|------------------|-----------------|----------------|---------------|-------------|-------------|---------------|--------------------|
| Locksmith | 4 | 0 | 0 | 2 | 0 | 0 | 2 | 4 |
| Electro-Mechanical Technician | 3 | 3 | 0 | 0 | 0 | 0 | 3 | 3 |
| Instrument Mechanic | 44 | 23 | 0 | 0 | 0 | 18 | 31 | 7 |
| Dental Lab Technician | 3 | 2 | 0 | 2 | 0 | 1 | 4 | 4 |
| Franchising Technician | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| Watch Repairer | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Optical Lab Technician | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 3 |
| Bismuth Equipment Technician | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| TV & Radio Repairer | 7 | 0 | 0 | 1 | 0 | 0 | 6 | 6 |
| Electric Motor Repairer | 3 | 2 | 0 | 1 | 0 | 0 | 4 | 0 |
| Small Appliances Repairer | 3 | 0 | 0 | 1 | 0 | 0 | 2 | 2 |
| Appliances Repairer (Electrical Equipment) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Plumbers | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Automobile Upholsterer | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 1 |
| Furniture Upholsterer | 19 | 11 | 0 | 7 | 0 | 2 | 21 | 5 |
| Factormaker (Textile) | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| Sail Maker | 20 | 0 | 0 | 0 | 0 | 1 | 23 | 1 |
| Shop Tailor | 23 | 20 | 0 | 11 | 1 | 3 | 23 | 1 |
| Shoemaker | 0 | 5 | 0 | 0 | 0 | 0 | 3 | 1 |
| Structural Steel Worker | 40 | 23 | 1 | 11 | 0 | 4 | 49 | 10 |
| Sheetmetal Worker | 110 | 123 | 3 | 62 | 2 | 37 | 335 | 106 |
| Boilermaker | 77 | 22 | 0 | 0 | 0 | 1 | 98 | 3 |
| Boilermaker Mechanic | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 2 |
| Rigger | 77 | 23 | 0 | 3 | 0 | 20 | 77 | 5 |
| Motor Dynamometer Tester | 0 | 1 | 0 | 3 | 0 | 0 | 4 | 1 |
| Electro-Mechanical Assembler | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Experimental Aircraft Assembly Mechanic | 3 | 0 | 0 | 1 | 0 | 0 | 3 | 1 |
| Shipfitter | 206 | 50 | 1 | 9 | 0 | 32 | 215 | 6 |
| Truck Body Repairer | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| Auto Body Repairer | 13 | 0 | 0 | 4 | 0 | 0 | 13 | 18 |
| Layout Worker | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Fabricator-Assembler (Metal) | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 3 |
| Welder | 172 | 62 | 2 | 19 | 0 | 26 | 191 | 23 |
| Line Erector (Power & Light) | 2 | 3 | 0 | 0 | 0 | 1 | 4 | 5 |
| Burglar Alarm Servicer | 3 | 0 | 0 | 4 | 0 | 0 | 3 | 3 |
| Electrician | 1,115 | 622 | 12 | 396 | 2 | 160 | 1,379 | 355 |
| Street Light Servicer | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Ship Electrician | 276 | 64 | 0 | 20 | 0 | 41 | 279 | 6 |
| Electric Appliances Servicer | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| Electronics Mechanic | 101 | 24 | 0 | 0 | 0 | 0 | 125 | 8 |
| Maintenance Electrician | 100 | 30 | 0 | 17 | 0 | 27 | 102 | 78 |
| Sound Technician | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 1 |
| Cable Splicer | 11 | 0 | 0 | 0 | 0 | 0 | 11 | 1 |
| Painter | 47 | 34 | 0 | 23 | 0 | 5 | 59 | 23 |
| Painter (Ship) | 60 | 13 | 0 | 7 | 0 | 3 | 70 | 4 |
| Leather | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 5 |
| Plasterer | 13 | 2 | 0 | 5 | 0 | 0 | 9 | 7 |
| Drywall Applicator | 20 | 0 | 0 | 19 | 0 | 0 | 1 | 1 |
| Cement Mason | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 5 |
| Auto Painter | 4 | 0 | 0 | 1 | 0 | 0 | 3 | 1 |
| Septic Tank Installer | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Operating Engineer | 25 | 0 | 0 | 4 | 0 | 0 | 21 | 7 |
| Maintenance Carpenter | 4 | 1 | 0 | 1 | 0 | 0 | 4 | 11 |
| Architectural Carpenter | 3 | 2 | 0 | 0 | 0 | 0 | 4 | 1 |
| Ship Carpenter | 7 | 3 | 0 | 1 | 0 | 0 | 9 | 3 |
| Carpenter | 263 | 263 | 0 | 76 | 0 | 25 | 423 | 96 |
| Carpenter (Rough) | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Joiner (Ship) | 38 | 0 | 0 | 1 | 0 | 1 | 44 | 3 |
| Shipwright | 11 | 0 | 0 | 0 | 0 | 1 | 16 | 2 |
| Bricklayer | 111 | 121 | 1 | 56 | 0 | 14 | 163 | 31 |
| Tile Setter | 0 | 4 | 1 | 2 | 0 | 0 | 11 | 2 |
| Sewer System Maintenance Mechanic | 0 | 0 | 0 | 5 | 0 | 0 | 10 | 1 |
| Pipefitter (Ship) | 348 | 58 | 1 | 12 | 1 | 47 | 347 | 7 |
| Oil Burner Servicer & Installer | 3 | 1 | 0 | 1 | 0 | 1 | 2 | 3 |
| Pipefitter | 173 | 60 | 0 | 36 | 0 | 23 | 172 | 51 |
| Plumber | 321 | 240 | 2 | 133 | 2 | 30 | 380 | 176 |
| Insulation Worker | 81 | 42 | 0 | 28 | 0 | 0 | 91 | 16 |
| Pipefitter | 34 | 0 | 0 | 0 | 0 | 0 | 42 | 2 |
| Glazier | 13 | 10 | 0 | 4 | 0 | 0 | 12 | 4 |
| Glazier (Auto) | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| Rofer | 0 | 4 | 0 | 2 | 0 | 0 | 2 | 2 |
| Asbestos Worker | 16 | 4 | 0 | 4 | 0 | 0 | 10 | 1 |
| Maintenance Repairer (Factory or Mill) | 3 | 4 | 0 | 0 | 0 | 0 | 7 | 3 |
| Maintenance Repairer (Building) | 60 | 30 | 1 | 32 | 0 | 3 | 60 | 34 |
| Boiler Operator | 3 | 4 | 1 | 3 | 0 | 1 | 4 | 2 |
| Stationary Engineer | 5 | 0 | 0 | 1 | 0 | 0 | 4 | 7 |
| Water Treatment Plant Operator | 7 | 0 | 1 | 4 | 0 | 0 | 10 | 0 |
| Wastewater Treatment Plant Operator | 104 | 48 | 3 | 47 | 0 | 16 | 92 | 13 |
| Clarifying Plant Operator | 2 | 2 | 0 | 1 | 0 | 0 | 3 | 1 |
| Sign Writer | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Etcher (Photoengraving) | 12 | 0 | 0 | 7 | 0 | 0 | 5 | 2 |
| Photoengraver | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Lithographic Plate Maker | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| Lithographer | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 4 |
| Transferer | 7 | 1 | 0 | 0 | 0 | 1 | 7 | 2 |
| Photographer (Lithographic) | 0 | 3 | 0 | 0 | 0 | 0 | 13 | 2 |
| Computer | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Engraver (Machine) | 0 | 0 | 0 | 3 | 0 | 1 | 2 | 1 |
| Graphic Arts Technician | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 1 |
| Strapper | 4 | 0 | 0 | 1 | 0 | 1 | 2 | 3 |
| TOTALS | 7,386 | 3,996 | 50 | 1,118 | 17 | 1,318 | 8,166 | 3,585 |

APPRENTICE ACTIVITY BY OCCUPATION GROUP
1987

| Occupation | Begin- ning Period | New Appren- tices | Rein- state- ments | Can- cella- tions | Sus- pen- sions | Com- ple- tions | End of Period | Sponsors of Occup. |
|---|--------------------------|-------------------------|--------------------------|-------------------------|-----------------------|-----------------------|---------------------|--------------------------|
| Drafter (Architectural) | 2 | 7 | 0 | 2 | 0 | 1 | 6 | 2 |
| Research Mechanic | 5 | 0 | 0 | 0 | 0 | 1 | 4 | 1 |
| Electrical Technician | 9 | 6 | 0 | 0 | 0 | 2 | 13 | 1 |
| Electronic Technician | 20 | 2 | 0 | 4 | 0 | 5 | 13 | 10 |
| Instrument Technician | 3 | 7 | 0 | 1 | 0 | 0 | 9 | 3 |
| Engineering Aide | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 3 |
| Drafter (Civil) | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 4 |
| Mechanical Engineering Technician | 14 | 2 | 0 | 0 | 0 | 4 | 12 | 2 |
| Drafter (Mechanical) | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 7 |
| Metallurgical Technician | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Quality Control Technician | 24 | 6 | 0 | 5 | 0 | 14 | 10 | 4 |
| Party Chief (Surveyor) | 113 | 66 | 2 | 51 | 0 | 5 | 123 | 37 |
| Instrument Surveyor Assistant | 11 | 2 | 0 | 7 | 0 | 0 | 6 | 9 |
| Materials Engineer | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Test Technician | 36 | 0 | 0 | 2 | 0 | 5 | 29 | 1 |
| Horticulturist | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Building Inspector | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Industrial Waste Inspector | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 1 |
| Materials Coordinator | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Optician (Dispensing) | 147 | 127 | 0 | 53 | 3 | 36 | 176 | 226 |
| Commercial Food Equipment Technician | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 2 |
| Chef | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Cook | 142 | 40 | 0 | 26 | 0 | 23 | 132 | 32 |
| Cook (Institutional) | 32 | 27 | 0 | 10 | 0 | 0 | 43 | 10 |
| Meat Cutter | 14 | 3 | 0 | 4 | 0 | 0 | 13 | 6 |
| Barber | 44 | 45 | 2 | 21 | 0 | 14 | 54 | 128 |
| Cosmetologist | 476 | 510 | 4 | 281 | 2 | 177 | 523 | 1094 |
| Psychiatric Aide | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Shoe Repairer | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Firefighter | 7 | 0 | 0 | 0 | 0 | 4 | 3 | 1 |
| Plater | 10 | 0 | 0 | 2 | 0 | 0 | 7 | 4 |
| Electric Instrument Mechanic Chemical | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Molder | 9 | 1 | 0 | 1 | 0 | 2 | 7 | 2 |
| Baker | 44 | 21 | 0 | 14 | 1 | 6 | 42 | 21 |
| Chlorinator Operator | 4 | 0 | 0 | 0 | 0 | 1 | 3 | 1 |
| Machinist | 608 | 171 | 2 | 83 | 6 | 133 | 549 | 259 |
| Maintenance Machinist | 17 | 25 | 0 | 2 | 0 | 1 | 39 | 14 |
| Mold Maker (Die Casting & Plastic Molding) | 2 | 2 | 0 | 2 | 0 | 0 | 2 | 3 |
| Tool Maker | 6 | 0 | 0 | 0 | 0 | 2 | 4 | 7 |
| Tool & Die Maker | 45 | 12 | 0 | 6 | 0 | 16 | 35 | 42 |
| Grinder Operator (Surface & Tool) | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| Machine Set-Up Operator | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Blacksmith | 6 | 1 | 0 | 0 | 0 | 2 | 5 | 2 |
| Machine Operator | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| Inspector (Metal Fabricating) | 33 | 0 | 0 | 1 | 0 | 7 | 25 | 1 |
| Metal Fabricator | 48 | 11 | 0 | 18 | 0 | 5 | 35 | 12 |
| Inspector | 7 | 3 | 0 | 0 | 0 | 0 | 10 | 3 |
| Auto Mechanic | 26 | 38 | 0 | 9 | 0 | 3 | 51 | 72 |
| Construction Equipment Mechanic | 18 | 0 | 0 | 0 | 0 | 7 | 11 | 10 |
| Truck Mechanic | 11 | 5 | 0 | 2 | 0 | 1 | 13 | 20 |
| Transmission Mechanic | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| Outside Machinist | 250 | 38 | 1 | 22 | 0 | 44 | 223 | 8 |
| Diesel Mechanic | 22 | 5 | 0 | 1 | 0 | 2 | 22 | 15 |
| Fuel Injection Mechanic | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Maintenance Machine Repairer | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Welding Equipment Mechanic | 8 | 2 | 0 | 1 | 0 | 4 | 6 | 1 |
| Treatment Plant Mechanic | 16 | 5 | 0 | 2 | 0 | 5 | 14 | 2 |
| Office Machine Servicer | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| A/C Installer-Servicer | 1 | 4 | 0 | 0 | 0 | 0 | 5 | 2 |
| Industrial A/C Mechanic | 13 | 9 | 0 | 2 | 0 | 1 | 19 | 26 |
| Refrigeration Mechanic | 109 | 40 | 1 | 27 | 1 | 16 | 104 | 45 |
| Maintenance Mechanic | 298 | 128 | 1 | 53 | 1 | 32 | 337 | 170 |
| Millwright | 61 | 10 | 0 | 1 | 0 | 22 | 48 | 21 |
| Industrial Sewing Machine Repairer | 3 | 0 | 0 | 1 | 0 | 0 | 2 | 3 |
| Rotogravure Press Operator | 20 | 7 | 0 | 1 | 0 | 4 | 22 | 2 |
| Web Press Operator | 13 | 61 | 0 | 6 | 0 | 11 | 63 | 9 |
| Offset Press Operator | 25 | 12 | 0 | 5 | 0 | 3 | 29 | 8 |
| Folding Machine Operator | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Bindery Worker | 43 | 22 | 0 | 7 | 0 | 24 | 44 | 4 |
| Cabinetmaker | 36 | 33 | 0 | 18 | 0 | 1 | 50 | 29 |
| Loft Worker | 19 | 0 | 0 | 0 | 0 | 4 | 15 | 1 |
| Wood Patternmaker | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 9 |
| Metal Patternmaker | 10 | 1 | 0 | 0 | 0 | 0 | 11 | 5 |
| Engineering Technician (Aerospace Model Development) | 6 | 1 | 0 | 0 | 0 | 4 | 3 | 1 |
| Jeweler | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 3 |

APPRENTICE ACTIVITY BY OCCUPATION GROUP
1987

| Occupation | Begin- ning Period | New Appren- tices | Rein- state- ments | Can- cella- tions | Sus- pen- sions | Com- ple- tions | End of Period | Sponsors of Occup. |
|---|--------------------------|-------------------------|--------------------------|-------------------------|-----------------------|-----------------------|---------------------|--------------------------|
| Locksmith | 2 | 3 | 0 | 1 | 0 | 0 | 6 | 3 |
| Electro-Mechanical Technician | 5 | 1 | 0 | 2 | 0 | 0 | 4 | 3 |
| Instrument Mechanic | 31 | 11 | 0 | 1 | 0 | 19 | 17 | 8 |
| Dental Lab Technician | 4 | 0 | 0 | 0 | 0 | 1 | 3 | 3 |
| Prosthetics Technician | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Biomedical Equipment Technician | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| TV & Radio Repairer | 6 | 7 | 0 | 1 | 0 | 1 | 9 | 7 |
| Electric Motor Repairer | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 7 |
| Small Appliance Repairer | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Appliance Repairer (Electrical Equipment) | 6 | 0 | 0 | 3 | 0 | 0 | 3 | 2 |
| Automobile Upholsterer | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| Furniture Upholsterer | 21 | 2 | 0 | 6 | 0 | 3 | 14 | 5 |
| Patternmaker (Textile) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Sail Maker | 24 | 0 | 0 | 1 | 0 | 7 | 16 | 1 |
| Shop Tailor | 28 | 9 | 0 | 5 | 0 | 7 | 25 | 1 |
| Shoemaker | 3 | 5 | 1 | 0 | 0 | 2 | 7 | 1 |
| Structural Steel Worker | 49 | 17 | 1 | 16 | 0 | 2 | 49 | 10 |
| Sheetmetal Worker | 333 | 113 | 5 | 81 | 0 | 56 | 316 | 117 |
| Boilermaker | 98 | 1 | 0 | 0 | 0 | 19 | 76 | 3 |
| Boilerhouse Mechanic | 11 | 0 | 0 | 0 | 0 | 3 | 8 | 2 |
| Rigger | 75 | 7 | 0 | 6 | 0 | 14 | 62 | 5 |
| Motor Dynamometer Tester | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| Experimental Aircraft Assembly Mechanic | 3 | 2 | 0 | 2 | 0 | 0 | 3 | 1 |
| Shipfitter | 217 | 48 | 3 | 20 | 0 | 57 | 191 | 7 |
| Truck Body Repairer | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| Auto Body Repairer | 13 | 6 | 0 | 8 | 0 | 0 | 11 | 17 |
| Layout worker | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Welder | 190 | 61 | 0 | 29 | 3 | 33 | 186 | 33 |
| Line Erector (Power & Light) | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 5 |
| Burglar Alarm Installer-Servicer | 5 | 0 | 0 | 1 | 0 | 0 | 4 | 2 |
| Electrician | 1,378 | 789 | 12 | 462 | 7 | 160 | 1,543 | 395 |
| Street Light Servicer | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Ship Electrician | 281 | 42 | 0 | 17 | 0 | 52 | 254 | 7 |
| Electric Appliance Servicer | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 6 |
| Electronics Mechanic | 126 | 2 | 0 | 1 | 0 | 39 | 88 | 8 |
| Maintenance Electrician | 98 | 38 | 1 | 20 | 0 | 8 | 108 | 81 |
| Painter | 50 | 62 | 0 | 14 | 0 | 9 | 85 | 25 |
| Painter (Ship) | 70 | 6 | 0 | 5 | 0 | 13 | 58 | 4 |
| Lather | 8 | 12 | 0 | 8 | 0 | 2 | 10 | 6 |
| Plasterer | 9 | 1 | 0 | 4 | 0 | 2 | 4 | 6 |
| Drywall Applicator | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Cement Mason | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 5 |
| Auto Painter | 5 | 0 | 0 | 4 | 0 | 0 | 1 | 1 |
| Operating Engineer | 21 | 8 | 0 | 4 | 0 | 3 | 24 | 5 |
| Maintenance Carpenter | 4 | 2 | 0 | 2 | 0 | 0 | 4 | 12 |
| Acoustical Carpenter | 4 | 4 | 0 | 3 | 0 | 1 | 4 | 2 |
| Ship Carpenter | 9 | 3 | 0 | 1 | 0 | 0 | 11 | 2 |
| Carpenter | 422 | 162 | 2 | 172 | 1 | 35 | 375 | 110 |
| Carpenter (Rough) | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Joiner (Ship) | 44 | 1 | 0 | 1 | 0 | 11 | 33 | 3 |
| Shipwright | 16 | 0 | 0 | 1 | 0 | 1 | 14 | 2 |
| Bricklayer | 163 | 104 | 0 | 43 | 0 | 8 | 213 | 29 |
| Tile Setter | 11 | 5 | 0 | 2 | 0 | 1 | 11 | 3 |
| Sewer Systems Maintenance Mechanic | 10 | 3 | 0 | 1 | 0 | 2 | 10 | 1 |
| Pipefitter (Ship) | 348 | 39 | 0 | 13 | 0 | 64 | 310 | 7 |
| Oil Burner Servicer & Installer | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| Pipefitter | 175 | 56 | 2 | 37 | 0 | 35 | 155 | 49 |
| Plumber | 387 | 171 | 2 | 156 | 5 | 34 | 362 | 196 |
| Insulation Worker | 91 | 37 | 1 | 27 | 0 | 13 | 69 | 18 |
| Pipecoverer | 42 | 2 | 0 | 2 | 0 | 9 | 33 | 2 |
| Glazier | 12 | 7 | 0 | 7 | 0 | 1 | 11 | 5 |
| Roofer | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| Asbestos Worker | 10 | 5 | 0 | 3 | 0 | 3 | 9 | 1 |
| Maintenance Repairer (Factory or Mill) | 7 | 1 | 0 | 0 | 0 | 0 | 8 | 3 |
| Maintenance Repairer (Building) | 61 | 45 | 1 | 25 | 0 | 13 | 69 | 36 |
| Boiler Operator | 4 | 3 | 0 | 4 | 0 | 1 | 2 | 2 |
| Stationary Engineer | 4 | 1 | 0 | 0 | 0 | 3 | 2 | 7 |
| Water Treatment Plant Operator | 10 | 3 | 0 | 3 | 0 | 1 | 9 | 8 |
| Wastewater Treatment Plant Operator | 91 | 33 | 0 | 16 | 0 | 16 | 90 | 14 |
| Clarifying Plant Operator | 3 | 2 | 0 | 1 | 0 | 0 | 4 | 1 |
| Sign Writer | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Etcher (Photoengraving) | 5 | 0 | 0 | 1 | 0 | 4 | 0 | 1 |
| Lithographic Plate Maker | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Lithographer | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 3 |
| Transferrer | 7 | 28 | 0 | 0 | 0 | 7 | 28 | 2 |
| Photographer (Lithographic) | 13 | 0 | 0 | 0 | 0 | 0 | 13 | 1 |
| Compositor | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 6 |
| Engraver (Machine) | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Graphic Arts Technician | 8 | 1 | 0 | 3 | 0 | 0 | 6 | 1 |
| Stripper | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| TOTALS | 8,168 | 3,528 | 44 | 2,006 | 30 | 1,441 | 8,180 | 3,794 |

APPRENTICE ACTIVITY STATISTICS BY OCCUPATION GROUP

From January 1, 1988 - December 31, 1988

| OCCUPATION | BEGINNING ACTIVE APPRENTICES | NEW APPR'S | CANCELLED | COMPLETED OJT | COMPLETED RI | * - END OF PERIOD - * | |
|---------------------------|------------------------------------|---------------|-----------|------------------|-----------------|-----------------------|--------------------|
| | | | | | | ACTIVE APPR | ACTIVE PROGRAMS |
| DRAFTER, ARCHITECTURAL | 6 | 1 | 1 | 0 | 0 | 6 | 2 |
| RESEARCH MECHANIC | 3 | 0 | 0 | 0 | 0 | 3 | 1 |
| ELECTRICAL TECHNICIAN | 13 | 0 | 0 | 1 | 1 | 13 | 1 |
| ELECTRONICS TECHNICIAN | 13 | 2 | 0 | 2 | 2 | 15 | 2 |
| CABLE SPLICER | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| INSTRUMENTATION TECHNICIA | 9 | 0 | 0 | 1 | 1 | 9 | 4 |
| TRANSPORTATION ENGINEER | 1 | 1 | 0 | 1 | 1 | 2 | 2 |
| DRAFTER, CIVIL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MECHANICAL-ENGINEERING TE | 12 | 0 | 0 | 0 | 0 | 12 | 1 |
| METALLURGICAL TECHNICIAN | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| QUALITY-CONTROL TECHNICIA | 13 | 15 | 6 | 7 | 5 | 22 | 5 |
| LAND SURVEYOR | 112 | 68 | 32 | 10 | 10 | 148 | 139 |
| SURVEYOR ASSISTANT, INSTR | 6 | 3 | 3 | 0 | 0 | 6 | 8 |
| TEST TECHNICIAN | 29 | 0 | 0 | 3 | 3 | 29 | 1 |
| HORTICULTURIST | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| INSPECTOR, BUILDING | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| INSPECTOR, INDUSTRIAL WAS | 3 | 0 | 0 | 1 | 1 | 3 | 1 |
| SALESPERSON, PARTS | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| OPTICIAN, DISPENSING 2 | 157 | 175 | 52 | 42 | 31 | 279 | 323 |
| BAKER, HEAD | 4 | 0 | 0 | 0 | 0 | 4 | 3 |
| CHEF | 11 | 3 | 1 | 0 | 0 | 13 | 13 |
| COOK | 115 | 36 | 23 | 23 | 20 | 128 | 98 |

**APPRENTICE ACTIVITY STATISTICS BY OCCUPATION GROUP
(continued)**

From January 1, 1988 - December 31, 1988

| OCCUPATION | BEGINNING ACTIVE APPRENTICES | NEW APPR'S | CANCELLED | COMPLETED OJT | COMPLETED RI | * - END OF PERIOD - * | |
|---------------------------|------------------------------------|---------------|-----------|------------------|-----------------|-----------------------|--------------------|
| | | | | | | ACTIVE APPR | ACTIVE PROGRAMS |
| COOK | 60 | 11 | 9 | 8 | 5 | 62 | 36 |
| MEAT CUTTER | 17 | 15 | 9 | 2 | 2 | 23 | 19 |
| BARBER | 46 | 59 | 17 | 15 | 13 | 88 | 112 |
| COSMETOLOGIST | 401 | 536 | 224 | 153 | 118 | 708 | 1,035 |
| PSYCHIATRIC AIDE | 2 | 0 | 0 | 0 | 0 | 2 | 1 |
| SHOE REPAIRER | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| FIRE FIGHTER | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| FIRE FIGHTER | 1 | 1 | 0 | 1 | 1 | 2 | 2 |
| PLATER | 7 | 0 | 0 | 0 | 0 | 7 | 2 |
| HEAT TREATER 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| MOLDER | 7 | 1 | 0 | 1 | 1 | 8 | 3 |
| BAKER | 39 | 11 | 10 | 6 | 5 | 40 | 40 |
| CHLORINATOR OPERATOR | 3 | 0 | 0 | 3 | 3 | 3 | 1 |
| MODEL MAKER, FIREARMS | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| MACHINIST | 524 | 144 | 59 | 82 | 64 | 609 | 493 |
| MAINTENANCE MACHINIST | 35 | 15 | 1 | 2 | 2 | 49 | 12 |
| MOLD MAKER, DIE-CASTING A | 2 | 1 | 0 | 0 | 0 | 3 | 2 |
| TOOL MAKER | 5 | 1 | 0 | 2 | 2 | 6 | 2 |
| TOOL-AND-DIE MAKER | 36 | 22 | 2 | 6 | 3 | 56 | 46 |
| GRINDER OPERATOR, SURFACE | 2 | 0 | 0 | 1 | 1 | 2 | 1 |
| GRINDER SET-UP OPERATOR, | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| ELECTRICAL-DISCHARGE-MACH | 0 | 1 | 0 | 0 | 0 | 1 | 1 |

**APPRENTICE ACTIVITY STATISTICS BY OCCUPATION GROUP
(continued)**

From January 1, 1988 - December 31, 1988

| OCCUPATION | BEGINNING ACTIVE APPRENTICES | NEW APPR'S | CANCELLED | COMPLETED OJT | COMPLETED RI | * - END OF PERIOD - * | |
|---------------------------|------------------------------------|---------------|-----------|------------------|-----------------|-----------------------|--------------------|
| | | | | | | ACTIVE APPR | ACTIVE PROGRAMS |
| BLACKSMITH | 5 | 0 | 0 | 0 | 0 | 5 | 3 |
| MACHINE OPERATOR 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| INSPECTOR, METAL FABRICAT | 14 | 0 | 0 | 0 | 0 | 14 | 1 |
| METAL FABRICATOR | 27 | 10 | 11 | 2 | 2 | 26 | 12 |
| METAL-FABRICATOR APPRENTI | 2 | 0 | 1 | 1 | 1 | 1 | 1 |
| INSPECTOR | 10 | 0 | 0 | 7 | 7 | 10 | 7 |
| AUTOMOBILE MECHANIC | 42 | 35 | 14 | 2 | 2 | 63 | 61 |
| AUTOMOBILE MECHANIC | 0 | 2 | 0 | 0 | 0 | 2 | 2 |
| CONSTRUCTION-EQUIPMENT ME | 21 | 5 | 0 | 0 | 0 | 26 | 6 |
| MECHANIC, INDUSTRIAL TRUC | 11 | 0 | 1 | 3 | 0 | 10 | 7 |
| TRANSMISSION MECHANIC | 3 | 1 | 0 | 0 | 0 | 4 | 1 |
| MACHINIST, OUTSIDE | 220 | 43 | 12 | 29 | 29 | 251 | 14 |
| DIESEL MECHANIC | 29 | 7 | 6 | 1 | 1 | 30 | 26 |
| SMALL-ENGINE MECHANIC | 12 | 0 | 0 | 0 | 0 | 12 | 1 |
| MACHINE REPAIRER | 2 | 0 | 0 | 0 | 0 | 2 | 1 |
| REPAIRER, WELDING, BRAZIN | 6 | 4 | 1 | 2 | 2 | 9 | 1 |
| MAINTENANCE MECHANIC, COM | 0 | 10 | 0 | 0 | 0 | 10 | 1 |
| TREATMENT-PLANT MECHANIC | 13 | 7 | 0 | 2 | 2 | 20 | 1 |
| OFFICE-MACHINE SERVICER | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| AIR-CONDITIONING INSTALLE | 5 | 1 | 0 | 0 | 0 | 6 | 2 |
| ENVIRONMENTAL-CONTROL-SYS | 58 | 82 | 8 | 3 | 3 | 132 | 109 |
| REFRIGERATION MECHANIC | 96 | 5 | 19 | 9 | 8 | 82 | 43 |

**APPRENTICE ACTIVITY STATISTICS BY OCCUPATION GROUP
(continued)**

From January 1, 1988 - December 31, 1988

| OCCUPATION | BEGINNING | NEW | CANCELLED | COMPLETED | COMPLETED | * - END OF PERIOD - * | |
|---------------------------|-----------------------|--------|-----------|-----------|-----------|-----------------------|--------------------|
| | ACTIVE APPRENTICES | APPR'S | | OJT | RI | ACTIVE APPR | ACTIVE PROGRAMS |
| REFRIGERATION UNIT REPAIR | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| MAINTENANCE MECHANIC | 345 | 116 | 57 | 43 | 31 | 404 | 404 |
| MILLWRIGHT | 47 | 10 | 0 | 18 | 16 | 57 | 20 |
| SEWING-MACHINE REPAIRER | 2 | 0 | 0 | 0 | 0 | 2 | 2 |
| ROTOGRAVURE-PRESS OPERATO | 22 | 0 | 0 | 4 | 4 | 22 | 2 |
| WEB-PRESS OPERATOR | 65 | 0 | 0 | 17 | 17 | 65 | 5 |
| PRINTER, PLASTIC | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| OFFSET-PRESS OPERATOR 1 | 14 | 2 | 0 | 0 | 0 | 16 | 11 |
| PRESS OPERATOR | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| OFFSET-PRESS OPERATOR 2 | 20 | 9 | 2 | 0 | 0 | 27 | 1 |
| FOLDING-MACHINE OPERATOR | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| BINDERY WORKER | 57 | 12 | 2 | 8 | 8 | 67 | 22 |
| OFFSET PRINTER | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| CABINETMAKER | 35 | 21 | 17 | 6 | 5 | 39 | 49 |
| CABINETMAKER | 0 | 2 | 0 | 0 | 0 | 2 | 1 |
| LOFT WORKER | 15 | 3 | 0 | 4 | 4 | 18 | 1 |
| PATTERNMAKER, WOOD | 3 | 0 | 0 | 1 | 1 | 3 | 2 |
| PATTERNMAKER, METAL, BENC | 12 | 1 | 0 | 4 | 4 | 13 | 6 |
| MODEL MAKER | 3 | 0 | 0 | 0 | 0 | 3 | 1 |
| JEWELER | 4 | 1 | 0 | 0 | 0 | 5 | 1 |
| LOCKSMITH | 5 | 3 | 0 | 0 | 0 | 8 | 5 |
| ELECTROMECHANICAL TECHNIC | 4 | 6 | 1 | 0 | 0 | 9 | 2 |

**APPRENTICE ACTIVITY STATISTICS BY OCCUPATION GROUP
(continued)**

From January 1, 1988 - December 31, 1988

| OCCUPATION | BEGINNING ACTIVE APPRENTICES | NEW APPR'S | CANCELLED | COMPLETED OJT | COMPLETED RI | * - END OF PERIOD - * | ACTIVE APPR | ACTIVE PROGRAMS |
|---------------------------|------------------------------------|---------------|-----------|------------------|-----------------|-----------------------|----------------|--------------------|
| INSTRUMENT MECHANIC | 27 | 34 | 2 | 16 | 16 | 59 | 11 | |
| DENTAL-LABORATORY TECHNIC | 3 | 0 | 1 | 0 | 0 | 2 | 1 | |
| BIOMEDICAL EQUIPMENT TECH | 1 | 0 | 0 | 0 | 0 | 1 | 1 | |
| TELEVISION-AND-RADIO REPA | 9 | 5 | 2 | 3 | 2 | 12 | 4 | |
| ELECTRIC-MOTOR REPAIRER | 4 | 1 | 0 | 0 | 0 | 5 | 4 | |
| ELECTRICAL-APPLIANCE REPA | 0 | 2 | 0 | 0 | 0 | 2 | 2 | |
| APPLIANCE REPAIRER | 3 | 2 | 1 | 0 | 0 | 4 | 2 | |
| FURNITURE UPHOLSTERER | 13 | 10 | 2 | 2 | 2 | 21 | 13 | |
| UPHOLSTERER, INSIDE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| CUSHION BUILDER | 1 | 0 | 0 | 0 | 0 | 1 | 1 | |
| SAIL CUTTER | 14 | 0 | 0 | 0 | 0 | 14 | 1 | |
| SHOP TAILOR | 24 | 12 | 13 | 2 | 2 | 23 | 1 | |
| SHOEMAKER, CUSTOM | 6 | 0 | 4 | 0 | 0 | 2 | 1 | |
| STRUCTURAL-STEEL WORKER | 52 | 23 | 12 | 12 | 12 | 63 | 15 | |
| SHEET-METAL WORKER | 273 | 121 | 61 | 45 | 31 | 333 | 222 | |
| BOILERMAKER 1 | 72 | 2 | 0 | 1 | 1 | 74 | 4 | |
| BOILERHOUSE MECHANIC | 2 | 1 | 0 | 0 | 0 | 3 | 2 | |
| RIGGER | 52 | 18 | 6 | 11 | 11 | 64 | 10 | |
| DYNAMOMETER TESTER, MOTOR | 3 | 1 | 0 | 1 | 1 | 4 | 0 | |
| ASSEMBLY MECHANIC, EXPERI | 3 | 0 | 0 | 0 | 0 | 3 | 1 | |
| SHIPFITTER | 184 | 45 | 28 | 24 | 24 | 201 | 23 | |
| TRUCK-BODY BUILDER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

**APPRENTICE ACTIVITY STATISTICS BY OCCUPATION GROUP
(continued)**

From January 1, 1988 - December 31, 1988

| OCCUPATION | BEGINNING ACTIVE APPRENTICES | NEW APPR'S | CANCELLED | COMPLETED OJT | COMPLETED RI | * - END OF PERIOD - * | |
|---------------------------|------------------------------------|---------------|-----------|------------------|-----------------|-----------------------|--------------------|
| | | | | | | ACTIVE APPR | ACTIVE PROGRAMS |
| AUTOMOBILE-BODY REPAIRER | 8 | 18 | 8 | 0 | 0 | 18 | 8 |
| LAY-OUT WORKER 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ORNAMENTAL-IRON WORKER | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| WELDER, COMBINATION | 167 | 34 | 21 | 19 | 16 | 180 | 39 |
| LINE ERECTOR | 5 | 7 | 0 | 1 | 1 | 12 | 3 |
| PROTECTIVE-SIGNAL INSTALL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ELECTRICIAN | 1,402 | 726 | 376 | 155 | 131 | 1,751 | 1,748 |
| STREET-LIGHT SERVICER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ELECTRICIAN | 249 | 41 | 20 | 38 | 38 | 270 | 15 |
| ELECTRICAL-APPLIANCE SERV | 2 | 0 | 1 | 0 | 0 | 1 | 2 |
| ELECTRONICS MECHANIC | 88 | 0 | 2 | 0 | 0 | 86 | 2 |
| ELECTRICIAN, MAINTENANCE | 76 | 27 | 13 | 12 | 7 | 90 | 61 |
| ELECTRICIAN, MAINTENANCE | 78 | 14 | 9 | 10 | 6 | 83 | 69 |
| SOUND TECHNICIAN | 0 | 4 | 0 | 0 | 0 | 4 | 1 |
| CABLE SPLICER | 9 | 0 | 0 | 0 | 0 | 9 | 1 |
| PAINTER | 58 | 28 | 21 | 7 | 2 | 65 | 32 |
| PAINTER, SHIPYARD | 54 | 9 | 4 | 5 | 5 | 59 | 5 |
| LATHER | 7 | 7 | 7 | 1 | 1 | 7 | 10 |
| PLASTERER | 2 | 0 | 1 | 0 | 0 | 1 | 3 |
| DRY-WALL APPLICATOR | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| CEMENT MASON | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| CEMENT MASON | 1 | 0 | 0 | 0 | 0 | 1 | 1 |

**APPRENTICE ACTIVITY STATISTICS BY OCCUPATION GROUP
(continued)**

From January 1, 1988 - December 31, 1988

| OCCUPATION | BEGINNING | NEW | CANCELLED | COMPLETED | COMPLETED | * - END OF PERIOD - * | |
|---------------------------|-----------------------|--------|-----------|-----------|-----------|-----------------------|--------------------|
| | ACTIVE APPRENTICES | APPR'S | | OJT | RI | ACTIVE APPR | ACTIVE PROGRAMS |
| PAINTER, TRANSPORTATION E | 0 | 4 | 2 | 0 | 0 | 2 | 1 |
| OPERATING ENGINEER | 23 | 2 | 5 | 5 | 4 | 20 | 3 |
| CARPENTER, MAINTENANCE | 4 | 1 | 0 | 0 | 0 | 5 | 5 |
| CARPENTER, SHIP | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| ACOUSTICAL CARPENTER | 4 | 1 | 4 | 0 | 0 | 1 | 2 |
| BOATBUILDER, WOOD | 11 | 1 | 3 | 0 | 0 | 9 | 2 |
| CARPENTER | 316 | 174 | 81 | 40 | 35 | 409 | 349 |
| CARPENTER, ROUGH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| JOINER | 32 | 2 | 1 | 1 | 1 | 33 | 3 |
| SHIPWRIGHT | 10 | 0 | 0 | 0 | 0 | 10 | 1 |
| BRICKLAYER | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| BRICKLAYER | 198 | 79 | 70 | 9 | 2 | 204 | 96 |
| TILE SETTER | 9 | 2 | 1 | 3 | 2 | 10 | 7 |
| WATER-AND-SEWER-SYSTEMS S | 10 | 2 | 0 | 1 | 1 | 12 | 1 |
| PIPE FITTER | 310 | 43 | 14 | 26 | 26 | 339 | 17 |
| OIL-BURNER-SERVICER-AND-I | 2 | 0 | 0 | 0 | 0 | 2 | 1 |
| PIPE FITTER | 99 | 42 | 18 | 9 | 7 | 123 | 84 |
| PIPE FITTER | 35 | 8 | 6 | 6 | 6 | 37 | 32 |
| PIPE-FITTER APPRENTICE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PLUMBER | 339 | 194 | 97 | 42 | 28 | 435 | 465 |
| INSULATION WORKER | 46 | 34 | 19 | 7 | 5 | 61 | 39 |
| INSULATION WORKER | 7 | 0 | 0 | 0 | 0 | 7 | 3 |

**APPRENTICE ACTIVITY STATISTICS BY OCCUPATION GROUP
(continued)**

From January 1, 1988 - December 31, 1988

| OCCUPATION | BEGINNING | NEW | CANCELLED | COMPLETED | COMPLETED | * - END OF PERIOD - * | |
|---------------------------|-----------------------|--------|-----------|-----------|-----------|-----------------------|--------------------|
| | ACTIVE APPRENTICES | APPR'S | | OJT | RI | ACTIVE APPR | ACTIVE PROGRAMS |
| PIPE COVERER AND INSULATO | 31 | 1 | 1 | 1 | 1 | 31 | 3 |
| GLAZIER | 11 | 11 | 4 | 1 | 1 | 18 | 15 |
| ROOFER | 1 | 12 | 0 | 0 | 0 | 13 | 9 |
| CONSTRUCTION WORKER 1 | 9 | 2 | 0 | 0 | 0 | 11 | 1 |
| DOCKMASTER | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| MAINTENANCE REPAIRER, BUI | 53 | 57 | 21 | 9 | 7 | 89 | 79 |
| RIGGER | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| BOILER OPERATOR | 2 | 1 | 0 | 0 | 0 | 3 | 2 |
| STATIONARY ENGINEER | 2 | 1 | 0 | 1 | 1 | 3 | 3 |
| WATER-TREATMENT-PLANT OPE | 8 | 1 | 2 | 1 | 1 | 7 | 5 |
| WASTEWATER-TREATMENT-PLAN | 84 | 44 | 11 | 9 | 9 | 117 | 20 |
| CLARIFYING-PLANT OPERATOR | 4 | 0 | 3 | 0 | 0 | 1 | 1 |
| SIGN WRITER, HAND | 1 | 5 | 2 | 0 | 0 | 4 | 1 |
| OFFSET-PLATE MAKER | 4 | 0 | 0 | 0 | 0 | 4 | 2 |
| LITHOGRAPHIC PLATE MAKER | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| TRANSFERRER | 28 | 0 | 0 | 3 | 3 | 28 | 1 |
| PHOTOGRAPHER, LITHOGRAPHI | 13 | 0 | 0 | 8 | 8 | 13 | 1 |
| COMPOSITOR | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| ENGRAVER, MACHINE | 2 | 0 | 0 | 0 | 0 | 2 | 1 |
| GRAPHIC ARTS TECHNICIAN | 4 | 12 | 4 | 0 | 0 | 12 | 1 |
| *----- TOTALS -----* | 7,601 | 3,458 | 1,585 | 1,089 | 902 | 9,463 ** | 6,851 |

1989 SESSION

VIRGINIA ACTS OF ASSEMBLY - CHAPTER 515

An Act to amend and reenact § 22.1-254 of the Code of Virginia and to amend the Code of Virginia by adding a section numbered 22.1-207.2, relating to compulsory school attendance.

[S 660]

Approved MAR 23 1989

Be it enacted by the General Assembly of Virginia:

1. That § 22.1-254 of the Code of Virginia is amended and reenacted and the Code of Virginia is amended by adding a section numbered 22.1-207.2 as follows:

§ 22.1-207.2. Right of parents to review certain materials; summaries distributed on request.—Every parent, guardian or other person in the Commonwealth having control or charge of any child who is required by § 22.1-254 A to send such child to a public school shall have the right to review the complete family life curricula, including all supplemental materials used in any family life education program. A complete copy of such material shall be kept in the school library or office and made available for review to any parent or guardian during school office hours before and during the school year.

Each school board shall develop and, when so requested by an individual parent or guardian of a student participating in the family life education program, distribute to that parent or guardian, a summary designed to assist parents in understanding the program implemented in its school division as such program progresses and to encourage parental guidance and involvement in the instruction of the students. Such information shall reflect the curricula of the program as taught in the classroom.

*§ 22.1-254. Ages of children required to attend.— A. Every parent, guardian, or other person in the Commonwealth having control or charge of any child who will have reached the fifth birthday on or before ~~October 31 of the 1980-1981 school year~~ and September 30 of any school year thereafter and who has not passed the ~~seventeenth~~ *eighteenth* birthday shall, during the period of each year the public schools are in session and for the same number of days and hours per day as the public schools, send such child to a public school or to a private, denominational or parochial school or have such child taught by a tutor or teacher of qualifications prescribed by the Board of Education and approved by the division superintendent or provide for home instruction of such child as described in § 22.1-254.1.*

As prescribed in the regulations of the Board of Education, the requirements of this section may also be satisfied by sending a child to an alternative program of study or work/study offered by a public, private, denominational or parochial school or by a public or private degree granting institution of higher education.

B. Instruction in the home of a child or children by the parent, guardian or other person having control or charge of such child or children shall not be classified or defined as a private, denominational or parochial school.

C. The requirements of this section shall not apply to any child who has obtained a high school diploma, its equivalent, or a certificate of completion, or has otherwise complied with compulsory school attendance requirements as set forth in this article.

2. That this act shall become effective on July 1, 1990.

Commonwealth Of Virginia

VOLUNTARY APPRENTICESHIP ACT

Section

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| <p>40.1-117. Apprenticeship Council: membership and terms of office; meetings and duties; compensation and expenses.</p> <p>40.1-118. Authority of Council.</p> <p>40.1-119. Local and State joint apprenticeship committees.</p> <p>40.1-120. Definitions.</p> <p>40.1-121. Requisites of apprentice agreement.</p> <p>40.1-122. Approval of agreement by Council: signing.</p> | <p>40.1-123. Agreement binding after apprentice's majority.</p> <p>40.1-124. Agreement signed by organization of employers or of employees.</p> <p>40.1-125. Commissioner to administer chapter.</p> <p>40.1-126. Operation and application of chapter.</p> |
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§40.1-117. Apprenticeship Council; membership and terms of office; meetings and duties; compensation and expenses. — The Governor shall appoint an Apprenticeship Council, composed of three representatives each from employer and employee organizations respectively, and all of whom shall be familiar with apprenticeable occupations. The Commissioner of Labor and Industry and the State Director of Vocational Education, or their designated representative, shall be members, ex officio, of the Council. At the beginning of each year the Governor shall designate one member to serve as chairman. The original appointments having been for terms of one, two and three years and all successors having been appointed for three years, each member hereafter shall be appointed for a term of three years. Any member appointed to fill a vacancy occurring prior to the expiration of the term of his predecessor shall be appointed for the remainder of such term. All members, including ex officio members, shall have voting privileges.

The Apprenticeship Council shall meet at the call of the chairman of the Council and shall formulate policies for the effective administration of this chapter.

The Apprenticeship Council shall establish standards for apprentice agreements which shall not be lower than those prescribed by this chapter, and shall perform such other functions as may be necessary to carry out the intent and purpose of this chapter. Not less than once a year the Council shall make a report of its activities and findings to the General Assembly and to the public.

The members of the Apprenticeship Council shall each receive as compensation the sum of twenty dollars for each day or part thereof actually spent in the performance of their duties, in addition to their reasonable actual expenses incurred as a result thereto. (Code 1950 (Repl. Vol. 1953), § 40-123; 1968, c. 273; 1970, c. 321; 1978, c. 206.)

§ 40.1-118. Authority of Council. — The Council may;

- (1) Determine standards for apprentice agreements, which standards shall not be lower than those prescribed by this chapter;
- (2) Appoint the secretary of the Apprenticeship Council to act as secretary of each State joint apprenticeship committee;
- (3) Approve, if in their opinion approval is for the best interest of the apprentice any apprentice agreement which meets the standards established under this chapter;

(4) Terminate or cancel any apprentice agreement in accordance with the provisions of such agreement;

(5) Keep a record of apprentice agreements and their disposition;

(6) Issue certificates of journeymanship upon the completion of the apprenticeship;

(7) Perform such other duties as are necessary to carry out the intent of this chapter;

(8) Review decisions of local and State joint apprenticeship committees adjusting apprenticeship disputes pursuant to § 40.1-119(3); and

(9) Initiate deregistration proceedings when the apprenticeship program is not conducted, operated and administered in accordance with the registered provisions except that deregistration proceedings for violation of equal opportunity requirements shall be processed in accordance with the provisions of the Virginia State Plan for Equal Employment Opportunity in Apprenticeship.

Provided, that the administration and supervision of related and supplemental instruction for apprentices, coordination of instruction with job experiences, and the selection and training of teachers and coordinators for such instruction shall be the responsibility of State and local boards responsible for vocational education. (Code 1950 (Repl. Vol. 1953), § 40-124; 1970, c. 321; 1978, c. 206.)

§ 40.1-119. Local and State joint apprenticeship committees.— A local joint apprenticeship committee shall be appointed in any trade or group of trades in a city or trade area, by the Apprenticeship Council, whenever the apprentice training needs of such trade or group of trades justify such establishment.

When two or more local joint apprenticeship committees have been established in the State for a trade or group of trades or at the request of any trade or group of trades, the Apprenticeship Council may appoint a State apprenticeship committee for such trade or group of trades. Such local and State joint apprenticeship committees shall be composed of an equal number of employer and employee representatives chosen from names submitted by the respective employer and employee organizations in such trade or group of trades. In a trade or group of trades in which there is no bona fide employer or employee organization, the committee shall be appointed from persons known to represent the interests of employers and of employees respectively.

The functions of a local joint apprenticeship committee shall be:

(1) To cooperate with school authorities in regard to the education of apprentices;

(2) In accordance with standards established by the Apprenticeship Council, to establish local standards of apprenticeship regarding schedule of operations, application of wage rates, working conditions for apprentices and the number of apprentices which shall be employed locally in the trade; and

(3) To adjust apprenticeship disputes.

The functions of a State trade apprenticeship committee shall be to assist in the establishment of statewide standards of apprenticeship and in the development of local standards and local committees. (Code 1950 (Repl. Vol. 1953), § 40-125; 1970, c. 321.)

§ 40.1-120. Definitions.

(1) The term "apprenticeable occupation" shall mean a skilled trade having the following characteristics:

- (a) It is customarily learned in a practical way through a structured systematic program of on-the-job supervised work experience;
- (b) It is clearly identifiable and recognized throughout an industry;
- (c) It involves manual, mechanical or technical skills which require a minimum of two thousand hours of on-the-job work experience (of new apprenticeable trades not otherwise established); and
- (d) It requires related instruction to supplement the on-the-job work experience.

(2) The term "apprentice" shall mean a person at least sixteen years of age who is covered by a written agreement with an employer and approved by the Apprenticeship Council, which apprentice agreement provides for not less than two thousand hours of reasonably continuous employment (in new apprenticeable trades not otherwise established) for such person, for his participation in an approved schedule of work experience through employment and the amount of related instruction required in the craft or trade. (Code 1950 (Repl. Vol. 1953), § 40-126; 1960, c. 336; 1970, c. 321; 1978, c. 206.)

§ 40.1-121. Requisites of apprentice agreement.—Every apprentice agreement entered into under this chapter shall contain:

- (1) The names of the contracting parties.
- (2) The date of birth of the apprentice.
- (3) A statement of the trade, craft, or business which the apprentice is to be taught, and the time at which the apprenticeship will begin and end.
- (4) A statement showing the number of hours to be spent by the apprentice in work and the number of hours to be spent in related or supplemental instruction.
- (5) A statement setting forth a schedule of the processes in the trade or industry division in which the apprentice is to be taught and the approximate time to be spent at each process.
- (6) A statement of the graduated scale of wages to be paid the apprentice and whether the required school time shall be compensated.
- (7) A statement providing for a period of probation of not less than five hundred hours of employment and instruction extending over not less than four months, during which time the apprentice agreement shall be terminated by the Council at the request in writing of either party, and providing that after such probationary period the apprentice agreement may be terminated by the Council by mutual agreement of all parties thereto, or cancelled by the Council for good and sufficient reason.
- (8) A provision that an employer who is unable to fulfill his obligation under the apprentice agreement may with the approval of the Council transfer such contract to any other employer, provided the apprentice consents and such other employer agrees to assume the obligations of the apprentice agreement.
- (9) Such additional terms and conditions as may be prescribed or approved by the Council not inconsistent with the provisions of this chapter. (Code 1950 (Repl. Vol. 1953), § 40-127; 1960, c. 336; 1970, c. 321.)

§ 40.1-122. Approval of agreement by Council; signing.—No apprentice agreement under this chapter shall be effective until approved by the Council. Every apprentice agreement shall be signed by the employer, or by an association of employers or an organization of employees as provided in § 40.1-124, and by the ap-

prentice, and, if the apprentice is a minor, by the minor's father or mother, provided, that if both father and mother be dead or legally incapable of giving consent or have abandoned their children, then by the guardian of the minor. (Code 1950 (Repl. Vol. 1953), § 40-128; 1970, c. 321; 1974, c. 272.)

§ 40.1-123. **Agreement binding after apprentice's majority.**— When a minor enters into an apprentice agreement under this chapter for a period of training extending into his majority, the apprentice agreement shall likewise be binding for such a period as may be covered during the apprentice's majority. (Code 1950 (Repl. Vol. 1953), § 40-129; 1970, c. 321.)

§ 40.1-124. **Agreement signed by organization of employers or of employees.**— For the purpose of providing greater diversity of training or continuity of employment, any apprentice agreement made under this chapter may in the discretion of the Council be signed by an association of employers or an organization of employees instead of by an individual employer. In such a case, the apprentice agreement shall expressly provide that the association of employers or organization of employees does not assume the obligation of an employer but agrees to use its best endeavors to procure employment and training for such apprentice with one or more employers who will accept full responsibility, as herein provided, for all the terms and conditions of employment and training set forth in the agreement between the apprentice and employer association or employee organization during the period of each such employment. The apprentice agreement in such a case shall also expressly provide for the transfer of the apprentice, subject to the approval of the Council, to such employer or employers as shall sign a written agreement with the apprentice, and if the apprentice is a minor with his parent or guardian, as specified in § 40.1-122, contracting to employ the apprentice for the whole or a definite part of the total period of apprenticeship under the terms and conditions of employment and training set forth in the agreement entered into between the apprentice and the employer association or employee organization. (Code 1950 (Repl. Vol. 1953), § 40-130; 1970, c. 321.)

§ 40.1-125. **Commissioner to administer chapter.**— The Commissioner, with the advice and guidance of the Council, shall be responsible for administering the provisions of this chapter. (Code 1950 (Repl. Vol. 1953), § 40-131; 1970, c. 321.)

§ 40.1-126. **Operation and application of chapter.**— Nothing in this chapter or in any apprentice agreement approved under this chapter shall operate to invalidate any apprenticeship provision in any collective agreement between employers and employees, setting up higher apprenticeship standards. But none of the terms or provisions of this chapter shall apply to any person, firm, corporation or craft unless, until and only so long as such person, firm, corporation or craft voluntarily elects that the terms and provisions of this chapter shall apply. (Code 1950 (Repl. Vol. 1953), § 40-132; 1970, c. 321.)