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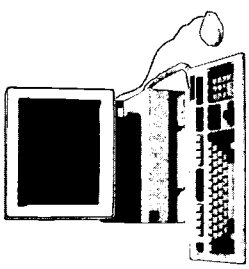
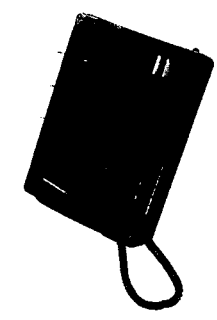
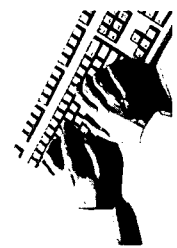
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ABSTRACT

This guide to Minnesota training resources for adults seeking new employment opportunities provides an overview of careers, wages, job availability, and necessary training. Occupations are described in these areas: medical careers; office professions; technical careers; art, writing, and media careers; service careers---food, hair, police; mechanic careers; precision machine crafts; construction careers; driving occupations; sales careers; careers needing 4 years of training; and jobs requiring no training. Information in each area is presented in a two-page format with eight columns listing the following: (1) job title and job duties; (2) number employed in the occupation; (3) salaries--low-range; (4) salaries--midrange; (5) growth rate; (6) job openings; (7) training needed; and (8) availability of jobs. Other sections contain the following: list of shrinking occupations and popular occupations with few job openings and growing occupations; detailed information about medical careers, computer careers, media careers, accounting, cosmetology, cooking, corrections, machine tool, printing, construction, drivers, and sales; discussion of whether training will result in a job or good pay; technical and community college addresses; majors and training programs at technical and community colleges; sources of short-term training; examples of customized training; and mature workers and employer expectations. An index is followed by a list of regional offices to call to find out qualifications for eligibility. (YLB)

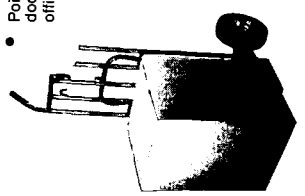
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Minnesota
**CAREER
FOCUS**
**CAREERS & TRAINING:
A GUIDE FOR ADULTS**

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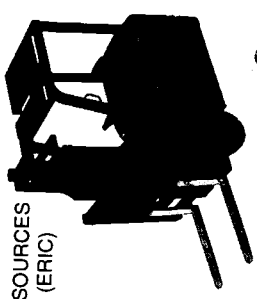
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How to Use This Book	Office Professions	Technical Careers	Art & Writing & Media	Service Occupations	Mechanic Careers	Precision Machine Crafts	Construction & Driving	Sales Careers	Survival Jobs: No Training	Caution: Shrinking Fields	Expanding Fields	Computer Careers	Will Training Result In A Job? Good Pay?	Tech & Community College Addresses	Tech & Community College Programs	Short Term Training	Index
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This publication is a guide to Minnesota training resources for adults seeking new employment opportunities. As the workplace of the 1990s continues to change, workers are challenged to learn new skills and abilities. Often individuals who have been dislocated from prior employment must explore career alternatives. The information in this booklet provides an overview of careers, wages, job availability and

training needed for employment. The reader will also find on page 80 a directory of dislocated worker agencies that serve persons who are seeking new jobs or new careers. Finally, this booklet lists other helpful information, such as training programs available at technical and community colleges.

—Minnesota Department of Economic Security—
—Dislocated Worker Program—

Minnesota Career FOCUS 1996 was prepared by:
Minnesota's Dislocated Worker Programs
Jim Korkki, Director

Many counselors and support people who work with dislocated workers contributed to the development of *FOCUS*. A special thanks to three people whose contribution was especially significant:

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HOW TO USE MINNESOTA CAREER FOCUS

JOB TITLE & DUTIES

In this column, *Minnesota Career Focus* provides you with the job title & job duties for each of the 200 common occupations on the following 40 pages.

Some occupations have a very complicated set of duties, such as "General Manager" (the head of a large organization). A manager's job usually carries an enormous amount of responsibility, involves difficult decision-making, and requires 50-80 hours of work per week, without extra pay. Many of these jobs are rewarded with high pay, of course.

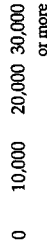
Other occupations have simple duties that are easy to understand and perform, and don't require high-level decisions or risk.

Other differences in duties from occupation to occupation are:

- ◆ whether they require movement or strength.
- ◆ whether they require special skills in language, math, etc.
- ◆ whether they require certain knowledge, such as mechanical know-how.

SIZE OF OCCUPATION

In this column, *FOCUS* tells you how many paying jobs exist in Minnesota in each of the 200 occupations on the next 40 pages, that is, how big each occupation was in 1993.



Some occupations are very large. Example: 51,000 people work as secretaries in Minnesota, making it one of the largest of the largest occupations.

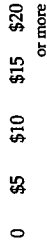
Some occupations are very small. Example: There are only 230 motorcycle mechanics who have paying jobs in Minnesota.



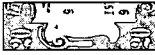
The average size of the occupations that we look at in this booklet is about 5,000 workers.

SALARIES - LOW-RANGE

FOCUS gives you a low-range salary figure for each occupation on the next 40 pages. Nine out of ten workers in the occupation earn at least this amount per hour (1994).



In some occupations almost all the workers get paid above \$10 per hour. Example: Nine out of ten registered nurses earn over \$13.90 per hour.



Some jobs pay the minimum wage. Fast food jobs & waitressing, which don't require much training, are likely to pay about \$4.25/hr.



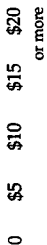
The average low-range pay: If we average* the low-range pay for all occupations, from doctors (\$33/hr.) to fast food cooks (\$4.40/hr.), the average we get is about \$8.40 per hour.

*Weighted average of the 10th percentile for all occupations listed in the *Minnesota Salary Survey 1994* (10th percentile means 10% earn less, 90% earn more).

We've taken most of our salary information from the *Minnesota Salary Survey 1994*, which is also developed by our agency. Other information on salaries comes from the *Occupational Outlook Handbook*.

SALARIES - MID-RANGE

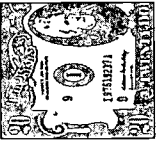
In this column, *FOCUS* gives you a mid-range salary figure on the following 40 pages. Half of the workers in the occupation earn at least this amount per hour (1994).



In some occupations, the mid-range salary can be over \$20/hr. Some examples: Physicians: \$56
Lawyers: \$26
Gen'l Mgrs: \$25
Electrical Engineers: \$23.



For some jobs, the mid-range salary might never be much higher than the low-end salary. Some examples: Fast food: \$5.10
Cashiers: \$5.50.



The average mid-range pay: If we average** the mid-range pay for all occupations, from doctors (\$55/hr.) to fast food cooks (\$5.10/hr.), the average we get is about \$12 per hour.

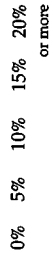
**Weighted average of the 50th percentile (half earn less, half earn more) for all occupations in the *Minnesota Salary Survey 1994*.

We've taken most of our salary information from the *Minnesota Salary Survey 1994*, which is also developed by our agency. Other information on salaries comes from the *Occupational Outlook Handbook*.

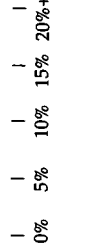
HOW YOU CAN SEE THE TYPES OF INFORMATION LISTED ON THE NEXT 40 PAGES

GROWTH RATE

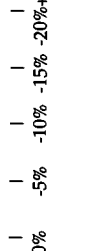
Minnesota Career FOCUS tells you in this column how fast each occupation is growing, that is, the percent increase from 1993 to 2001 or the rate at which new jobs are being created.



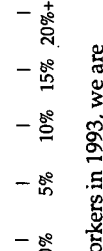
Some fields are growing quickly. From 1993 to 2001, we will need 69% more human services workers, 67% more computer engineers, and 65% more systems analysts.



Some fields are actually getting smaller from 1993 to 2001: 22% fewer computer operators, 18% fewer telephone equipment repairers, & 10% fewer farmers.



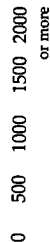
The average rate of growth of all occupations in Minnesota between 1993 and 2001 is predicted to be around 12.6%. In other words, if an occupation has 1000 workers in 1993, we are predicting that it will have 126 actual new jobs by 2001, as a result of growth.



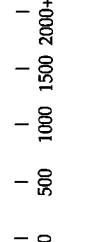
We have taken most of our information on growth rates of occupations from Minnesota Employment Outlook to 2001, which is developed and produced by our agency, the Research and Statistics Office of the Minn. Dept. of Economic Security. 612-296-6545.

JOB OPENINGS

FOCUS lists the average number of job openings per year that are available for new workers in each occupation till 2001—new jobs plus jobs available due to retirements, deaths, etc.



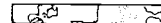
Some fields will have many job openings for new workers: 1,560 new driving jobs per year till 2001 & 1,300 registered nursing jobs per year.



Some fields will have few job openings for new workers: only 40 openings/year for new reporters, & 30 for new foresters, & 30 for new biologists.



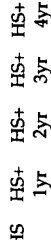
The average number of job openings for new workers per occupation is 180 per year.



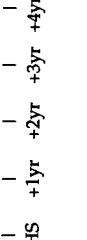
Again, we have taken most of our information for future job openings in occupations from Minnesota Employment Outlook to 2001.

TRAINING NEEDED

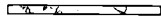
In this column, FOCUS tells you how many years of full-time training are generally needed to enter each of the occupations on the next 40 pages.



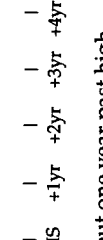
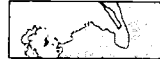
Some require several years of full-time training past high school. Doctors & lawyers need 7 years or more; registered nurses 2 years or more.



Some fields require only high school graduation (sometimes even less). For example, packagers in factories.



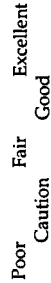
What's the average amount of school training that you need for a typical job? It's difficult to determine. But we estimate that the average school training time is about one year past high school. It ranges from 8 or more years for physicians to less than high school for many retail store jobs & for fast food counter workers.



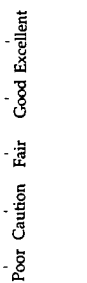
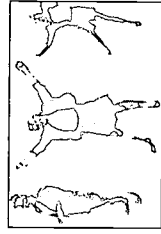
We have taken most of our information on training requirements from our own surveys and from the Minnesota Career Information System (MCIS), which is operated by the Minnesota Department of Children, Families, and Learning.

AVAILABILITY OF JOBS

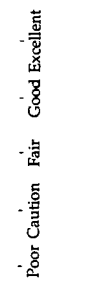
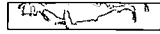
FOCUS tries to answer the following questions in this column: What is the job market like for these occupations? How easy is it to find jobs? What does the future hold?



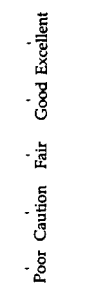
For some fields, opportunities will be excellent, with more jobs than job-seekers: medical assistants, physical therapists, and home health aides.



In some fields, it's hard to find a job, because not nearly enough openings exist to match the number of job-seekers who have completed training for those fields.



The job outlook for the typical occupation is "fair."



Our statements about job availability are based on information that we gathered in surveys completed during the fall of 1995:

- ◆ Survey of more than 300 professional and business associations.
- ◆ Survey of more than 300 labor organizations.
- ◆ Survey of all 4-year colleges, technical colleges, and community colleges with over 500 students.

MEDICAL CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

REGISTERED NURSE

RN's perform professional nursing services in the treatment and care of patients.

See more on page 50.

LICENSED PRACTICAL NURSE

LPN's care for patients who are less than acutely ill. Also care for convalescent and chronic patients. Assist registered nurse in the care of the more acutely ill.

See more on page 50.

MEDICAL LAB TECH (or Clinical Lab Tech)

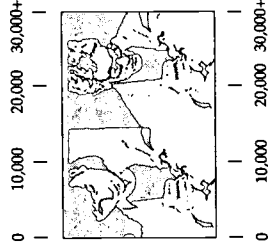
TECHNOLOGISTS perform complex lab procedures or specialized procedures in cytology, histology, and microbiology. TECHNICIANS perform routine lab tests in treatment and diagnosis of disease.

RADIOLOGIC TECH

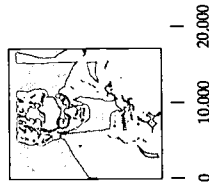
Radiologic technologists take X-rays, catscans, or administer nonradioactive materials into patient's blood stream. Use equipment to show portions of the human body on X-ray or fluoroscopic screen for diagnosis.

SIZE OF OCCUPATION

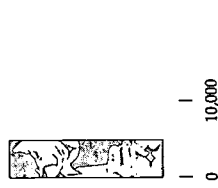
How many paying jobs exist in this occupation in Minnesota (1993).



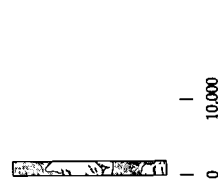
37,110 people work as RN's in Minnesota.



17,430 licensed practical nurses work in Minnesota.



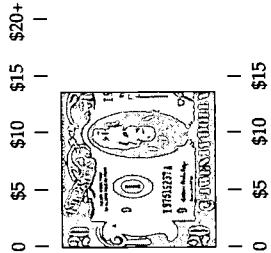
5,110 medical lab techs work in Minnesota.



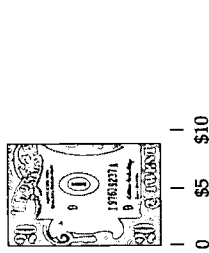
2,640 people work as radiologic techs in Minnesota.

SALARIES - LOW RANGE

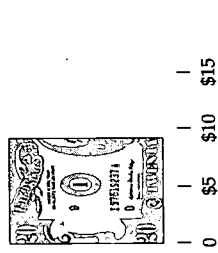
Nine out of ten workers in this occupation earn at least this amount per hour (1994).



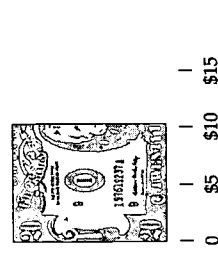
Nine out of ten RN's earn over \$13.90 /hr.



Nine out of ten LPN's earn over \$9.03/hr.



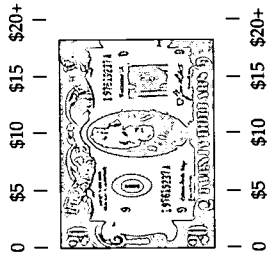
Nine out of ten medical lab technicians earn over \$9.07 / hr.



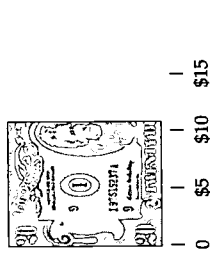
Nine out of ten radiologic techs earn over \$10.41/hr.

SALARIES - MID RANGE

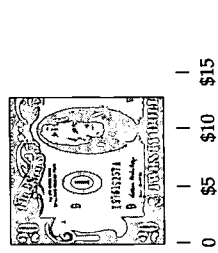
Half of the workers in this occupation earn at least this amount per hour (1994).



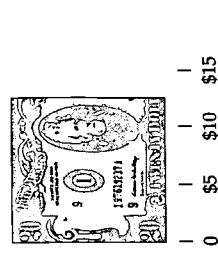
One-half of all RN's earn over \$18.50/hour, usually with experience.



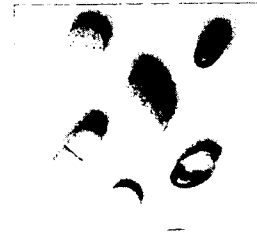
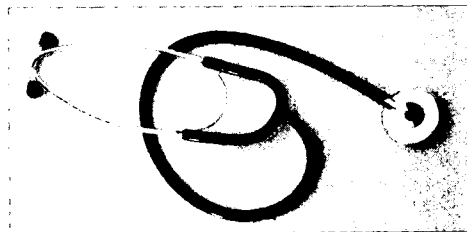
One-half of all LPN's earn over \$11.05/hour, usually with experience.



One-half of all medical lab technicians earn over \$15.34/hour. One-half of all medical lab technicians earn over \$11.02/ hr.

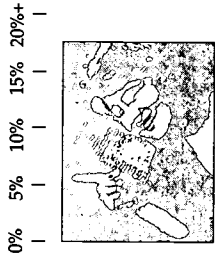


One-half of all radiologic techs earn more than \$12.75 /hour, usually with experience.



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



Registered nursing has an above-average growth rate. From 1993-2001, the number of RN's employed will increase by 18%.



LPN is a field growing at an average rate. From 1993-2001, the number of LPN's employed will increase 17%.



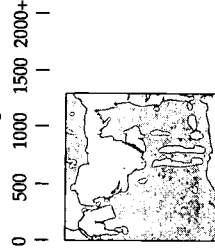
Medical lab work has an average growth rate. From 1993 to 2001, the number of medical lab techs employed will increase by 12%.



Radiology is a field growing at a very fast rate. From 1993-2001, the number of radiologists employed will increase 31%.

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 1,310 new RN's yearly to 2001, to fill new positions and to replace retirees.



Minnesota will need 610 new LPN's yearly to 2001, to fill new positions and to replace retirees.



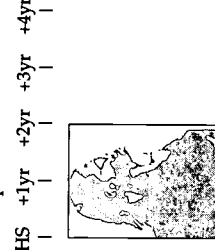
Minnesota will need 160 new medical lab techs yearly to 2001, to fill new positions and to replace retirees.



Minnesota will need 140 new radiologic techs yearly to 2001, to fill new positions and to replace retirees.

TRAINING NEEDED

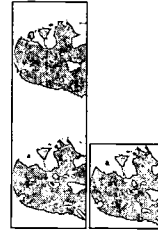
How much full-time training is generally needed to enter this occupation?



Most RN's have degrees from 2-yr community colleges or 4-yr colleges. In addition they must pass a licensing test to enter the field.



Most training programs for LPN's take 9-12 months to complete at public tech colleges. In addition LPN's must pass a licensing test to enter the field.



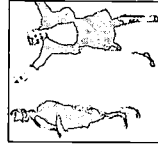
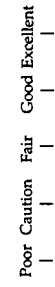
Medical technologists need a 4-yr. degree in medical technology. Med lab technicians complete a 1 or 2 yr. program at a tech or comm. college or a hospital.



Training takes 2 to 4 yrs. Most common are 2-yr courses, either at hospitals or at comm. or tech colleges. License not required, but employers may want ARRT certification.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Job openings almost always exist in this large occupation. However, because hospitals are downsizing in order to lower costs, some nursing school graduates are having difficulty getting their first jobs. Still, in August 1995, five community colleges and four 4-year colleges listed RN as a field *most likely to lead to jobs*. And experts predict a high need for RN's in the next 10 years. Best chances: nursing homes & rural areas, & in-home care with 1 yr. experience. See more on p. 50.



Thirteen tech colleges said in Aug 95 that LPN is *the #1 most likely program* to lead to jobs, ranking LPN above all other training programs. Opportunities should be very good for the next 10 years statewide, especially in nursing homes. Hospitals, however, are hiring LPN's less often. Best chances for jobs are in nursing homes & in rural areas. Nationally, U. S. News & World Report (Oct 94), named LPN as a "Hot Job Track." See more on p. 50.



Prospects are good. A medical lab association said in Aug 95 that "In the four areas of this field—medical technician (MT), medical lab technician (MLT), cytotechnologist (cells, pap smears), histological tech (tissue prep for microscope)—the outlook is excellent. Graduates of our programs have no trouble getting jobs." Three tech and community colleges also listed med lab tech training as highly likely to lead to jobs.



Confusing outlook: this field is predicted to grow very fast in the next 10 to 15 years. But currently it is difficult for new graduates to find jobs, especially in the metro area, because so many training programs exist. One school said in July 95 that relocation "outside metro area or out of state [possibly Calif. & Fla.]...will increase chances of work." However, the long-term outlook is good because of the aging population & increased use of radiology in the treatment of cancer.

MEDICAL CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

MEDICAL ASSISTANT

Performs various duties under the direction of physician in examination & treatment of patients. Prepares treatment room, checks supplies & instruments, & sets up patient for attention of physician. Handles instruments & materials.

DENTAL HYGIENIST

Perform dental prophylactic treatments and instruct groups and individuals in care of the teeth and mouth.

DENTAL ASSISTANT

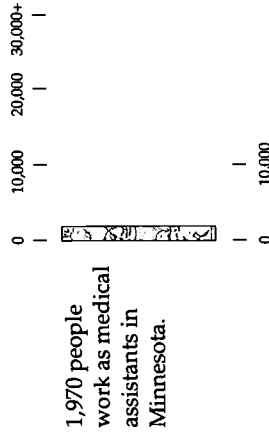
Assist dentist at chair, set up patient and equipment, keep records, & perform related duties as required.

OPTICIAN:

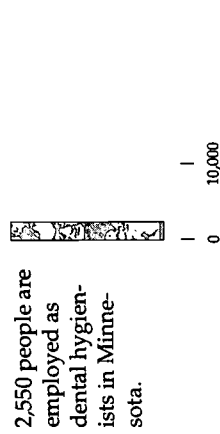
Dispensing & Measuring
Design, measure, fit, and adapt lenses and frames for clients according to written optical prescription or specification.

SIZE OF OCCUPATION

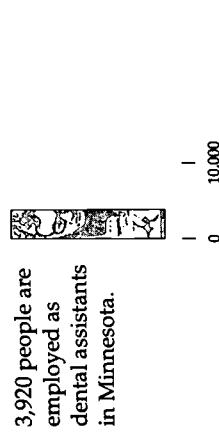
How many paying jobs exist in this occupation in Minnesota (1993).



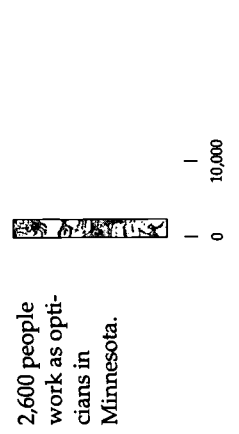
1,970 people work as medical assistants in Minnesota.



2,550 people are employed as dental hygienists in Minnesota.



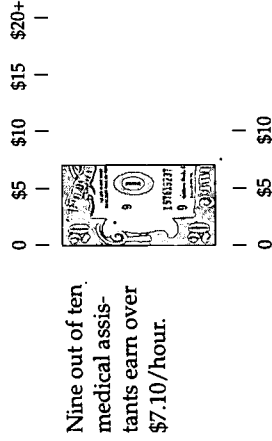
3,920 people are employed as dental assistants in Minnesota.



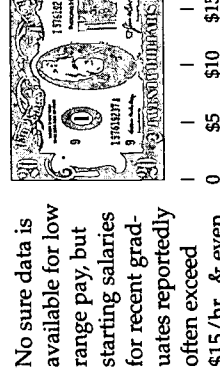
2,600 people work as opticians in Minnesota.

SALARIES - LOW RANGE

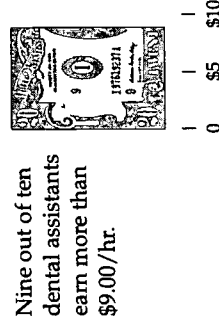
Nine out of ten workers in this occupation earn at least this amount per hour (1994).



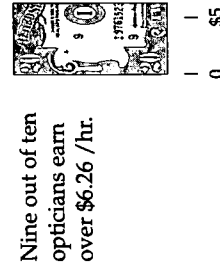
Nine out of ten medical assistants earn over \$7.10/hour.



No sure data is available for low range pay, but starting salaries for recent graduates reportedly often exceed \$15/hr., & even \$2 higher in metro area.



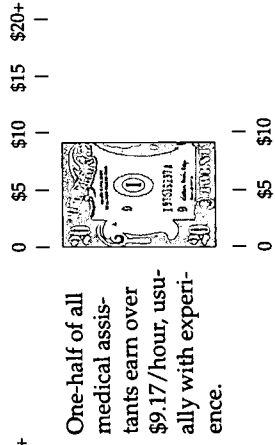
Nine out of ten dental assistants earn more than \$9.00/hr.



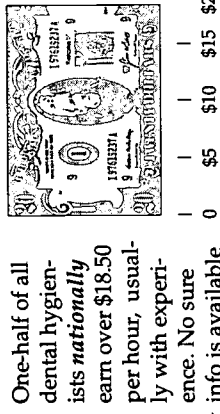
Nine out of ten opticians earn over \$6.26 /hr.

SALARIES - MID RANGE

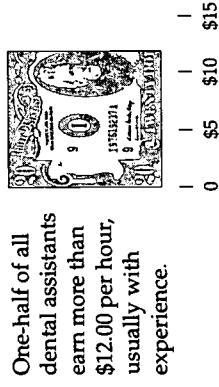
Half of the workers in this occupation earn at least this amount per hour (1994).



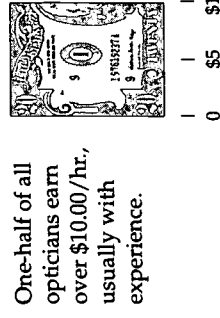
One-half of all medical assistants earn over \$9.17/hour, usually with experience.



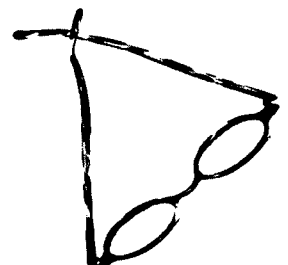
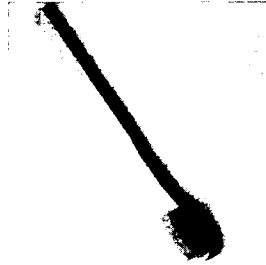
One-half of all dental hygienists *nationally* earn over \$18.50 per hour, usually with experience. No sure info is available for mid-range pay in Minnesota.



One-half of all dental assistants earn more than \$12.00 per hour, usually with experience.

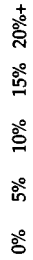


One-half of all opticians earn over \$10.00/hr., usually with experience.



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



The medical assistant occupation has a very fast growth rate. From 1993 to 2001, the number employed will increase by 35%.



Dental hygiene is a field growing at an above-average rate. From 1993-2001, the number of dental hygienists employed will increase 22%.



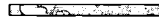
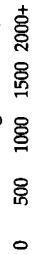
Dental assisting is a field growing at an above-average rate. From 1993-2001, the number of dental assistants employed will increase 19%.



Optician work is a field growing at an average rate. From 1993 to 2001, the number of opticians employed will increase 14%.

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 110 new medical assistants yearly to 2001, to fill new positions and to replace retirees.



Minnesota will need 100 new dental hygienists yearly to 2001, to fill new positions and to replace retirees.



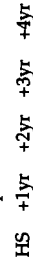
Minnesota will need 190 new dental assistants yearly to 2001, to fill new positions and to replace retirees.



Minnesota will need 80 new opticians yearly to 2001, to fill new positions and to replace retirees.

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



Training varies from 9 to 24 months for medical assistants, at tech colleges or community colleges. However, some med assistants are trained on-the-job.



Training programs for dental hygienists take 2 yrs. or 4 yrs. to complete. Must also pass a licensing test.



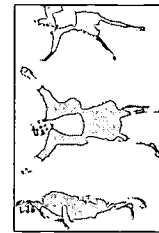
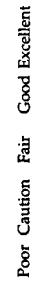
Some dentists train their own assts., but most hire trained people from tech colleges or private schools (9-12 mos.). To perform higher-level duties, need licensing.



Various ways to get training: on-the-job; or 1 to 2 yrs. of formal schooling at tech colleges or comm. colleges, or work at related jobs.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Excellent prospects for medical assistants who have experience and school training. In Minnesota this occupation is growing very fast from 1993 to 2001. Nationally, U. S. News & World Report magazine (Oct 94), named Medical Assistant as one of its predicted "20 Hot Job Tracks," suggesting it is a field which will have a high demand in the future. One drawback: low salaries.



Job availability will be good for the next 3 or 4 years. In 5 to 8 years, job prospects may decrease, because school programs are expected to produce more graduates, but the outlook will still be good. The Star Tribune in Nov 95 said there's a "continuing shortage of hygienists.... Demand is up." But a hygienist assn. said in July 95, "we wouldn't say full-time jobs are plentiful.... Many jobs are part-time, 2-3 days per week. Some hygienists take 2 jobs & sacrifice health insurance, vacation, sick leave."



Opportunities should be very good. Because there will be increased demand for dental services, dentists are expected to hire more assistants to perform routine tasks. Four tech & community colleges list dental assistant as a field most likely to lead to jobs. Nationally, U. S. News & World Report (Oct 94) named dental assistant as one of its predicted "Hot Job Tracks," suggesting it is a field which will have a high demand in the future.



Opportunities should be very good. Graduates of optical training programs will be in demand. Some comments from schools: Very good field, due to the aging population: older people are more likely to need glasses. Good chances for jobs. Students need to know more about the optical field, because it is very good. One tech college lists optician as very likely to lead to jobs.

MEDICAL CAREERS



JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

NURSE ASSISTANT

Perform medical care duties such as answering patient's bell call, serving & collecting food trays, feeding patients, setting up equipment. Work under the direction of nursing staff.

HOME HEALTH AIDE

Care for elderly, convalescent, or handicapped person in home of patient. Assist patient by changing bed linen; preparing meals; assisting in & out of bed; bathing, dressing, & grooming; & giving medicine under doctor orders.

SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).

Over 30,390 people work as nurse assistants or orderlies in Minnesota.



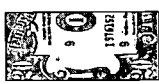
10,450 people work as home health aides in Minnesota.



SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).

Nine out of ten nurse assistants earn more than \$6.10 per hour.



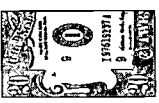
Nine out of ten home health aides earn over \$6.00 per hour.



SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).

One-half of all nurse assistants earn more than \$7.65 per hour, usually with experience.



One-half of all home health aides earn over \$7.30 per hour, usually with experience.



HEALTH THERAPISTS

- Speech Pathologists & Audiologists
- Occupational Therapists
- Physical Therapists
- Recreational Therapists
- Respiratory Therapists

HEALTH CARE MAINTENANCE WORKERS

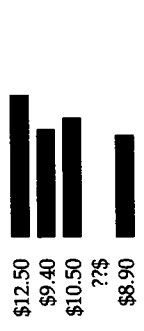
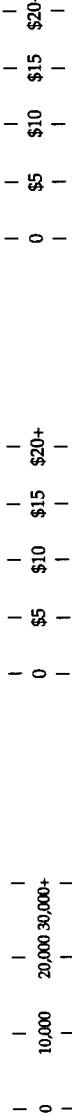
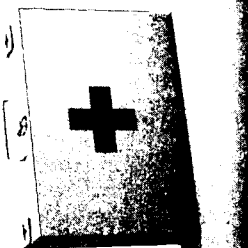
- Emergency Medical Technicians
- Physician Assistants

HEALTH TECHNICIANS

- Medical Records Technicians & Technologists
- Surgical Technicians & Technologists
- Nuclear Medicine Technologists
- EKG Technologists
- EKG Technicians

HEALTH SERVICE AIDES & ATTENDANTS

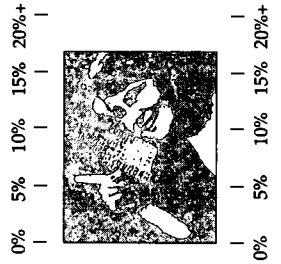
- Psychiatric Aides
- Physical & Corrective Therapy Assistants
- Occupational Therapy Assistants
- Ambulance Drivers & Attendants
- Pharmacy Assistants



MORE ABOUT HEALTH FIELDS ON PAGES 50-51.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



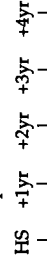
The nurse assistant field is growing at an average rate. By 2001, the number of nurse asst. will increase by 17%.



Minnesota will need 990 new nurse assistants & orderlies per year till 2001, to fill new positions and to replace retirees.



Need to complete 75 hours (3-4 weeks) of training to work as a nurse asst., plus pass an exam. Many tech colleges offer the training.



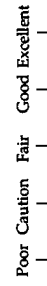
TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



AVAILABILITY OF JOBS

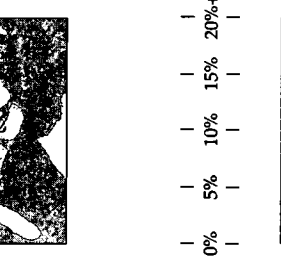
What is the job market like for this occupation? How easy is it to find jobs?



Job prospects are very good. Expansion of nursing homes should provide many new jobs. A nursing home association says that "there's a strong demand which will continue for some time (look at the want ads). There's a shortage throughout the state." A union says that "nursing homes especially are having trouble finding nursing assistants....Anyone who wants a job as a nurse aide can get one." Drawback: low pay.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



The home health aide field is growing at a very fast rate. From 1993 to 2001, the number of aides employed will increase 62%.



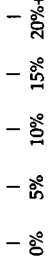
Minnesota will need 930 new home health aides yearly to 2001, to fill new positions and to replace retirees.



Can complete 75 hours (3-4 wks.) of nurse aide training at many public technical colleges.



The Minn. Home Care Assn. says that home health aides are needed statewide & that the job outlook for 5 to 8 years is excellent. *CityBusiness* has described the "outstanding growth...of home health care...due to movement away from expensive stays in the hospital to much cheaper care at home." Home health aide is the 4th-fastest growing occupation in Minn. The negative: jobs may pay low wages & be part-time.



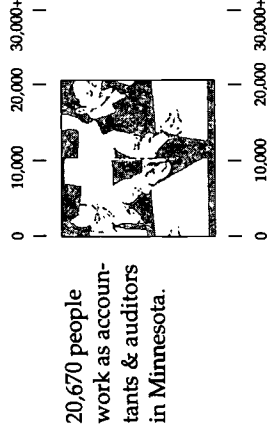
OFFICE CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

SIZE OF OCCUPATION

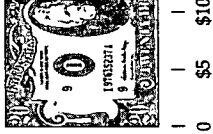
How many paying jobs exist in this occupation in Minnesota (1993).



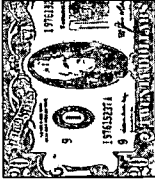
20,670 people work as accountants & auditors in Minnesota.



Nine out of ten accountants & auditors earn over \$11.25 /hr. (Robert Half Co. also does a survey that details national pay for specific specialties in accountg.)



One-half of all accountants earn more than \$15.56 per hour. usually with experience.



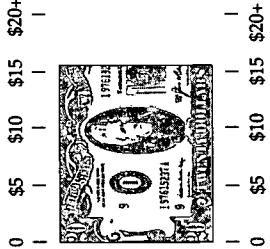
SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).



SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



ACCOUNTANTS/ AUDITORS

Accountants examine & analyze accounting records in order to give advice or to prepare statements. Also install or advise about financial systems which record costs & budgetary data.

PURCHASING AGENT & BUYER

Purchasing agents buy equipment and supplies necessary for the operation of a company, an organization, or a factory. *Wholesale & retail buyers* purchase merchandise or commodities for resale to consumers.



4,450 people work as purchasing agents in Minnesota. 3,040 people work as wholesale buyers & retail store buyers.

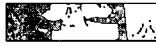


One-half of all purchasing agents earn over \$15.24 per hour, usually with experience. Half of all wholesale & retail store buyers earn over \$13.75.



PERSONNEL SPECIALISTS & EMPLOYMENT INTERVIEWERS

Personnel specialists recruit, select, train employees, and may be involved in promotion, safety, compensation. *Employment interviewers* interview job seekers in an employment referral office and refer them to possible employers.



5,300 people have work as personnel specialists & 1,200 work as employment interviewers in Minnesota.



Half of all personnel specialists earn over \$16/hr, and half of all employment interviewers earn over \$16 per hr, usually with experience.



FOOD & LODGING MANAGER

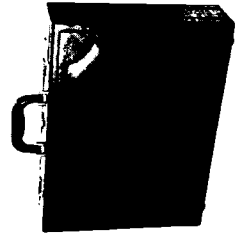
Food service & hotel/motel managers plan, organize, direct, control, or coordinate management activities of an organization that serves food & beverages &/or provides lodging & other accommodations.



10,200 people work as food service managers and hotel or motel managers in Minnesota.

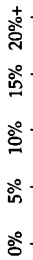


One-half of all food service managers and hotel/motel managers earn over \$10.34/hr, usually with experience.

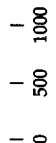
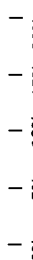


GROWTH RATE

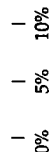
How fast this occupation is growing. (Percent increase from 1993 to 2001).



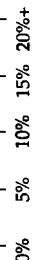
Accounting & auditing are fields that have above-average growth rates. From 1993-2001, the number of accountants employed will increase by 18%.



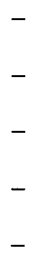
Purchasing is a field growing at a below-average rate of 5% from 1993-2001. Wholesale & retail buying is growing at an average rate of 8%.



From 1993-2001, personnel has an above-average growth rate of 24%. Employment interviewing has an average growth rate of 15%.

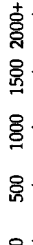


Food & lodging management has an above-average growth rate. From 1993 to 2001, the number of food & lodging mgrs. employed will increase 19%.

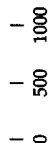


JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 760 new accountants & auditors yearly to 2001, to fill new positions and to replace retirees.



Minnesota will need 110 new purchasing agents and 110 new wholesale buyers & retail store buyers yearly to 2001, to fill new positions.



Minnesota will need 230 new personnel specialists and 40 new employment interviewers yearly to 2001, to fill new positions and to replace retirees.

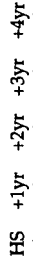


Minnesota will need 390 new food & lodging managers yearly to 2001, to fill new positions and to replace retirees.

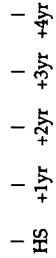


TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



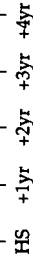
Most employers require a 4-yr college degree in accounting; some require master's. CPA's must pass tests. Chances for 2-yr degrees better outside Twin Cities area.



Purchasing agents need a 4-yr degree in business or a 2-yr degree in purchasing at a community or tech college. *Buyer* is not an entry level job. Most start as assistant buyers. To fill asst. buyer positions, some cos. promote from within; some recruit college grads.



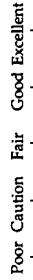
Personnel jobs require 4-yr degree in personnel or labor relations, maybe lib. arts. *Interviewer jobs* usually require 4-yr, but temporary agencies may look at sales ability.



Varying requirements:
1) Extensive, progressive food/hotel experience;
2) 4-yr. degree in food/hotel mgmt; or
3) 2 yr. degree + experience.

AVAILABILITY OF JOBS

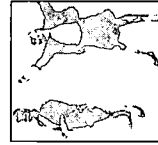
What is the job market like for this occupation? How easy is it to find jobs?



Very good outlook for 4-year graduates in accounting (ranked as the #1 major for job-getting by 4-year colleges), but quite a bit lower prospects for those with 2-year degrees. An accounting assn. says, "You really need four years training minimum nowadays. The profession is so much more complicated now—always new pronouncements, new tax laws, new ways businesses are operated, how businesses are organized, etc." Demand for cost accounting & internal auditing. See more, p. 54.



Decreasing prospects, due to the consolidation of buying departments resulting from mergers & due to increased use of automated systems. Best chances with a 4-year degree in business. *Purchasing*: A long-term decrease in job prospects. Low demand. Small companies will provide most jobs. *Buying*: More job-seekers than jobs, because many college grads are interested in buying. Persons with whole sale or retail experience, plus a degree, have best chances.



The personnel field has traditionally been very popular. Although a fair number of new jobs for personnel workers become available yearly, an abundant supply of qualified college graduates & experienced workers compete for jobs. *U. S. News & World Report* suggests higher demand for the *personnel* specialties of technical trainer, diversity manager, & team trainer. Most new jobs for *interviewers* are with temporary help agencies.



Restaurant manager may have the best job prospects of all management fields (the easiest mgmt. field to enter), and *hotel mgmt.* may have the second-best outlook. Four-year or 2-year degrees in restaurant or hotel mgmt. result in the best positions. One 4-year college states that hotel & restaurant mgmt. is one major that is highly likely to lead to related jobs & to jobs which pay relatively well. These are large occupations with high growth rates.

OFFICE CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

LOAN OFFICER

AND COUNSELOR

Evaluate & authorize applications for commercial or real estate loans and credit loans, or advise borrowers on financial status and methods of payments.

INSURANCE

ADJUSTER

Investigate and determine the amount of money an insurance company is liable for, concerning personal, casualty, or property loss or damages. Make settlement with claimants.



INSURANCE UNDER-

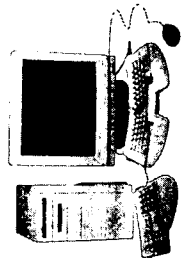
WRITERS & CLAIMS

EXAMINERS

Underwriters review applications for insurance to evaluate risk and determine acceptance. *Examiners* review *settled claims* to assure that proper methods were used.

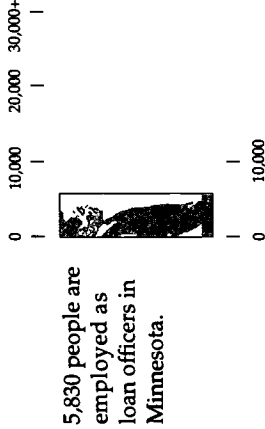
PARALEGALS

Assist lawyers by doing legal research for lawsuits and by preparing legal documents.



SIZE OF OCCUPATION

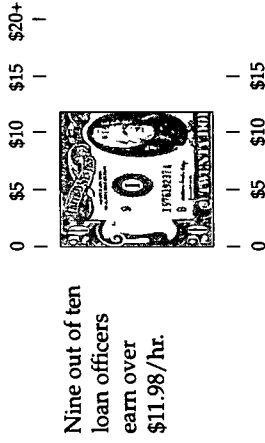
How many paying jobs exist in this occupation in Minnesota (1993).



5,830 people are employed as loan officers in Minnesota.

SALARIES - LOW RANGE

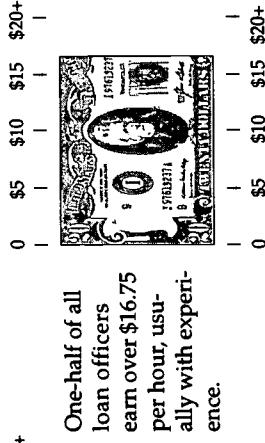
Nine out of ten workers in this occupation earn at least this amount per hour (1994).



Nine out of ten loan officers earn over \$11.98/hr.

SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).

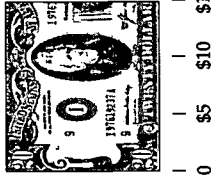


One-half of all loan officers earn over \$16.75 per hour, usually with experience.

3,250 people are employed as insurance adjusters in Minnesota.

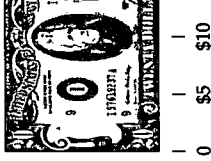


Nine out of ten insurance adjusters earn over \$9.23 per hour.

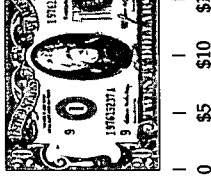


One-half of all insurance adjusters earn over \$14.94 per hour, usually with experience.

2,180 people are employed as insurance underwriters and 810 as claims examiners in Minnesota.



Nine out of ten insurance underwriters earn over \$13.53 /hr.

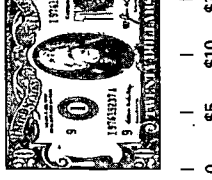


One-half of all insurance underwriters earn over \$17.74/hr, usually with experience. (No salary information available for examiners.)

1,600 people are employed as paralegals in Minnesota.



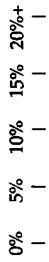
Nine out of ten paralegals earn over \$10.53/hr.



One-half of all paralegals earn over \$15.90/hr, usually with experience.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



Loan officer work has an above-average growth rate. From 1993-2001, the number of loan officers employed will increase by 20%.



Insurance adjusting has a very fast growth rate. From 1993-2001, the number of insurance adjusters employed will increase by 28%.



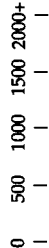
Underwriter and claim examiner work has an average growth rate. From 1993 to 2001, the number of claims examiners & underwriters will increase by 12%.



Paralegal is a field that's growing much faster than average. From 1993-2001, the number employed will increase 47%.

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 220 new loan officers yearly to 2001, to fill new positions and to replace retirees.



Minnesota will need 130 new insurance adjusters yearly to 2001, to fill new positions and to replace retirees.



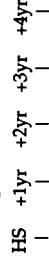
Minnesota will need 70 new insurance underwriters and 20 new claim examiners yearly to 2001, to fill new positions and to replace retirees.



Despite the fast growth rate, Minnesota will need only 100 new paralegals yearly to 2001, to fill new positions and to replace retirees.

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



Many employers require 2-yr or 4-yr degree; prefer major in business, finance, banking, or accounting, but lib. arts is possible. Or experience in finance or collection agency.



Most employers require 4-yr degree, with courses in business, law, medicine. Others hire those knowing auto repair, building construction, medical information.



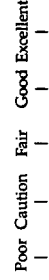
Most employers require 4-year degree, in business or lib. arts. Others consider 2-yr degrees in insurance field. Some promote from clerical positions within the insurance co.



Usually need a 4-year paralegal degree, sometimes 2 years. But some legal secretaries are promoted, or even persons with tax or nursing background.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Three big factors are affecting the demand for loan officers: ♦ Lower interest rates in mid-1995 are causing more loan activity, and this produces more jobs for loan officers (conversely, high interest rates means fewer jobs). ♦ But multiple bank mergers & acquisitions are resulting in the elimination of many positions in local banks. ♦ And large banks are automating loans so that customers apply by phone, again requiring fewer loan officers. Still, several banks say the outlook is fairly good.



Opportunities should be fair to good. One large insurance company says that although there are not a lot of adjusters in Minnesota, their company's definitely increased hiring. But they also say that the job market for adjusters is "not bad, but not ideal either... middle or a little above middle." They state that to enhance chances of obtaining a job, a person could come out of college with coursework in insurance & belong to an insurance fraternity.



Fair chances for employment. Most jobs are in the Twin Cities, although at least one large insurance co. has laid off hundreds of employees in the recent past. Two other large companies indicate that most underwriter & examiner positions are filled from within their cos., because employees (many with college degrees) start in clerical jobs & move up. One company said that the job market is static, and expects this to continue into the future.



Although the number of new jobs is increasing very fast, so is the number of persons training for this career. Thus, competition for jobs continues. A 2-year school says "entry level is tough." Job openings increasingly require a 4-year degree plus extra training to gain certification. Definitely need good computer knowledge. While most work in large law firms, others at insurance cos., in trust depts., or with govt.

OFFICE CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

SECRETARY

Performs office tasks & duties to help an office run smoothly. Duties usually include taking dictation, typing, scheduling appointments, word processing, computer operation.

LEGAL SECRETARY

Prepare legal papers and correspondence of a legal nature, such as summonses, complaints, motions, and subpoenas. Must be familiar with legal terminology, procedures and documents, as well as legal research.

MEDICAL SECRETARY

Perform secretarial duties utilizing specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties include taking dictation, & compiling & typing medical charts, reports, & correspondence.

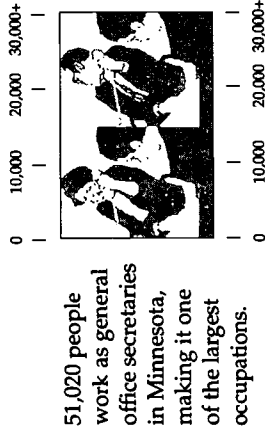
RECEPTIONIST &

SWITCHBOARD OPERATOR

Greets customers & other visitors, determines their needs, and refers callers to the person who can help them. May type, file, sort mail, or operate a switchboard.

SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).



51,020 people work as general office secretaries in Minnesota, making it one of the largest occupations.



4,240 people work as legal secretaries in Minnesota.



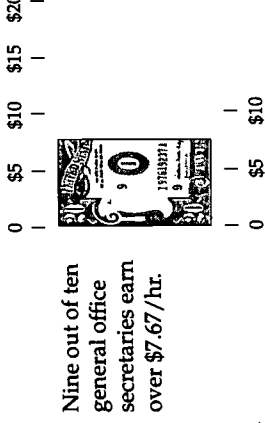
5,180 people work as medical secretaries in Minnesota.



23,020 people work as receptionists in Minnesota and 4,370 work as switchboard operators.

SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).



Nine out of ten general office secretaries earn over \$7.67/hr.



Nine out of ten legal secretaries earn over \$10.90/hr.



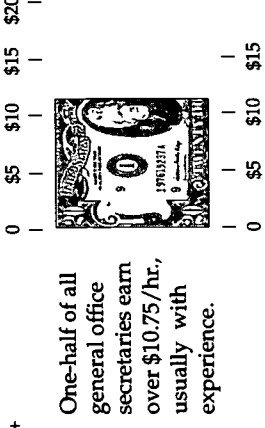
Nine out of ten medical secretaries earn over \$7.40/hr.



Nine out of ten receptionists and switchboard operators make over \$5.95/hr.

SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



One-half of all general office secretaries earn over \$10.75/hr., usually with experience.



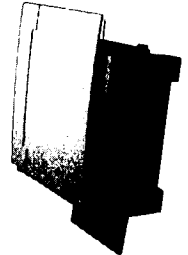
One-half of all legal secretaries earn over \$14.14 per hour, usually with experience.



One-half of all medical secretaries earn over \$9.80 per hour, usually with experience.

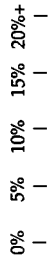


One-half of all receptionists and switchboard operators earn over \$7.90/hr., usually with experience.



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



From 1993 to 2001, the no. of general office secretaries employed will go up by only 2%, a below-average growth rate.



Despite a slow growth rate, 1,230 new office secretaries will be needed yearly till 2001 in Minnesota, to fill new positions and to replace retirees.



From 1993-2001, the number of legal secretaries employed will go up by 30%, a very fast growth rate.



From 1993-2001, the number of medical secretaries employed will go up by 21%, an above-average growth rate.

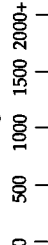


Although the receptionist field has an above-average growth rate of 18% predicted, the number of switchboard operators will decrease by 11%.



JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



H.S. grad/GED. Employers prefer 9 mo. training at technical schools or community colleges, typing 60 wpm, & shorthand 90 wpm.



H.S. grad/GED. Employers prefer 9 mo. at technical or community colleges, typing 60 wpm, shorthand 90 wpm, know le-gal terminology & forms.



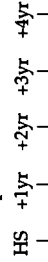
H.S. grad/GED. Employers prefer 9 months at technical or community colleges, typing 60 wpm, shorthand 90 wpm, know medical terminology, forms.



H.S. graduation or GED, usually with typing & other office courses. Extra 9 months training is available at technical schools.

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



H.S. grad/GED. HS +1yr



H.S. grad/GED. HS +1yr



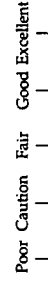
H.S. grad/GED. HS +1yr



H.S. graduation or GED, usually with typing & other office courses. Extra 9 months training is available at technical schools. HS +1yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Confusing outlook. Because the secretarial field is very large, there are many job openings, but changes are occurring which increase competition. Automation allows fewer people to do more work & schools provide many candidates for existing jobs. On one hand, nine 2-year colleges name *secretary* as a program *most* likely to lead to jobs; on the other hand, eight schools list *secretary* as *least* likely. Still, chances are excellent if *well qualified*. Word processing & computer techniques are important.



The job outlook is fairly good. The legal secretary field is not only growing very fast in Minnesota, but also will have a large number of new jobs from 1993 to 2001. Rapid growth is also projected nationally for the number of jobs for legal secretaries. A negative note: One technical college lists legal secretary as a field *least* likely to lead to related jobs. A positive note: pay is very good compared to other clerical jobs.



Nationally there is a projected rapid growth in the number of jobs for medical secretaries. Two technical & community colleges list medical secretary as a field *most* likely to lead to related jobs.



Job opportunities should be plentiful, because the receptionist field is growing fast and the turnover rate is high, as many receptionists leave their jobs to find other employment. Because many receptionists also perform secretarial duties, it's important for them to obtain good typing and computer skills, in addition to developing strong interpersonal and communication skills. A negative note: Four technical colleges list receptionist as a field *least* likely to lead to good pay.

OFFICE CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

ACCOUNTING CLERK

Bookkeeping & accounting clerks compute, classify, and record numerical data to keep sets of financial records complete. Perform routine calculating, posting, & verifying duties.

GENERAL OFFICE

CLERK**

**See note on page 43.
Some do routine office work such as posting, filing, & sorting. Others do tasks which might include light typing & operating office machines. Others with 1-2 yrs experience do difficult, specialized work.

HUMAN SERVICES WORKERS

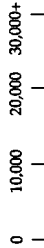
Assist social workers & case-workers with developing, organizing, & conducting programs to prevent & resolve problems relevant to substance abuse & human relationships.

TEACHER AIDE

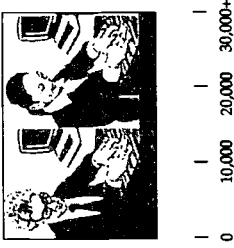
Under the guidance of a teacher, perform such duties as arranging work materials, supervising students at play, operating audiovisual equipment. Might at times directly instruct students.

SIZE OF OCCUPATION

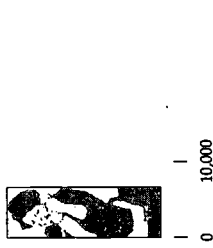
How many paying jobs exist in this occupation in Minnesota (1993).



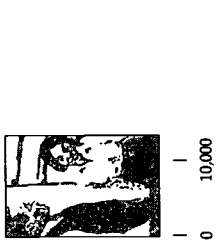
Over 43,280 people work as accounting and bookkeeping clerks in Minnesota, making it one of the largest occupations.



51,760 people work as general office clerks in Minnesota, making it one of the largest occupations.



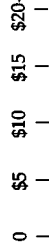
6,680 people work as human services workers in Minnesota.



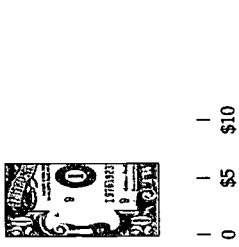
13,500 people work as teacher aides & educational assistants in Minnesota.

SALARIES - LOW RANGE

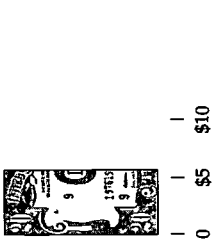
Nine out of ten workers in this occupation earn at least this amount per hour (1994).



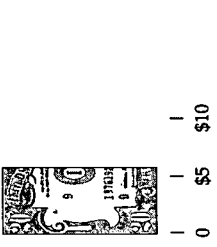
Nine out of ten accounting and bookkeeping clerks make over \$7.00/hr.



Nine out of ten office clerks make over \$6.50/hr.



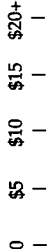
Nine out of ten human services workers earn over \$5.75/hr.



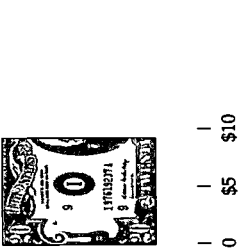
Nine out of ten teacher aides earn more than \$5.94/hour.

SALARIES - MID RANGE

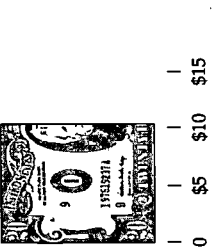
Half of the workers in this occupation earn at least this amount per hour (1994).



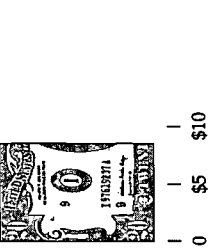
One-half of all accounting and bookkeeping clerks make over \$10.10/hr.



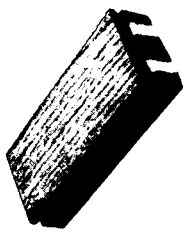
One-half of all office clerks earn over \$9.40 per hour usually with experience.



One-half of all human services workers earn over \$10.60/hr., usually with experience.

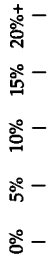


One-half of all teacher aides earn over about \$8.42 per hour, usually with experience.



GROWTH RATE

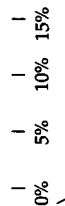
How fast this occupation is growing. (Percent increase from 1993 to 2001).



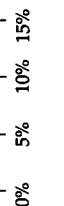
Job growth for accounting clerks is below-average. From 1993-2001, the number employed will increase by only 1%.



New job growth for office clerks is average. From 1993-2001, their numbers will increase by 14%.



Human services worker is a field that's growing very, very fast. From 1993-2001, the number of human services workers will increase by 69%.

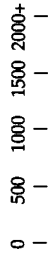


The teacher aide field has an above-average growth rate. From 1993-2001, the number of aides employed will increase by 20%.

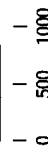


JOB OPENINGS

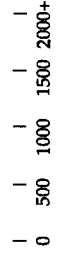
How many job openings per year will be available for new workers (average till 2001)



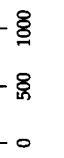
Despite a slow growth rate, 850 new bookkeeping and accounting clerks will be needed yearly in Minnesota, mostly to replace retirees.



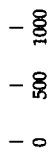
Minnesota will need 1,830 new general office clerks per year till 2001, to fill new positions and to replace retirees.



Minnesota will need 640 new human services workers yearly to 2001, to fill new positions and to replace retirees.

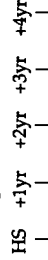


Minnesota will need 660 new teacher aides each year to 2001, to fill new positions and to replace retirees.



TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



H.S. grad/GED. Employers prefer 9-10 month accounting clerk training at tech schools or at community colleges.



H.S. graduation or GED, usually with typing & other office courses.



Usually requires a 2-yr program at community college or a 4-yr degree in a related field.

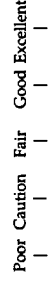


H.S. graduation or GED. Some technical colleges and community colleges offer 2-year teacher aide training programs.

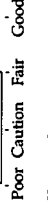


AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



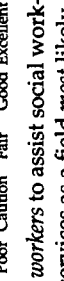
Although some schools say job market is good, others say it's poor and add: ♦ A lot of jobs, but very competitive. ♦ There are too many accounting grads from tech schools, universities, and community colleges. ♦ Hard job market. Lots of 2-year & 4-year grads looking at same jobs. Four technical colleges list *accounting clerk* as a field *least* likely to lead to jobs. One employer said that "personal computers...are making [some of] these positions obsolete."



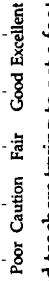
Opportunities should be quite favorable because, of all occupations, *general office clerk* ranks #3 in having the greatest number of new jobs predicted from 1993 to 2001. But the field also *attracts* many workers. In a 1994 survey, businesses were seeing an *oversupply* of clerical workers. A union rep says that, to ensure a job, clerks should know word processing & spreadsheets, and that job-seekers without computer skills will have a harder time finding work. High turnover.



Human services worker will be the #1 fastest-growing occupation in Minnesota from 1993 to 2001. During that period, it will also have a large number of new jobs. The reason: There'll be an increased need for social work & some of that need will be met through greater use of *human services workers* to assist social workers. Three 2-year colleges list human services as a field *most* likely to lead to related jobs.



Prospects should be good. A school employees union says "there's much promise now & in the future for teacher aides—our union's biggest growth area." Also, chances are "excellent" or "very good" for students in teacher aide programs at tech & community colleges. Some teacher aides are licensed teachers trying to get a foot in the door. But aides are usually trained by a school district, so special schooling isn't always needed. Spanish helps in some areas.



TECHNICAL CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

COMPUTER PROGRAMMER

Working from charts or diagrams, writes detailed instructions to the computer system in coded language. Analyzes programming requests.

SYSTEMS ANALYST

Computer systems analysts analyze business, scientific, and technical problems for application to electronic data processing systems.

COMPUTER & SOFTWARE ENGINEER

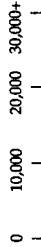
Research, design, & develop computer hardware & software systems, applying principles & techniques of computer science, engineering, & math analysis.

ELECTRICAL ENGINEER

Design, develop, test, and supervise the manufacture or installation of electrical and electronic equipment, components, or systems for commercial, industrial, military, or scientific use.

SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).



12,700 people work as computer programmers in Minnesota.



9,900 people work as computer systems analysts in Minnesota.



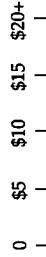
8,350 people are employed as computer engineers in Minnesota.



6,800 people are employed as electrical engineers in Minnesota.

SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).



Nine out of ten computer programmers earn over \$10.61/hr. (Source EDP Co. also does a survey that details national pay for specific specialties in program.)



Nine out of ten systems analysts earn over \$15.70 per hour. (Source EDP Co. also does a survey that details national pay for specific specialties in computers.)



Nine out of ten computer engineers earn over \$11.20/hr.

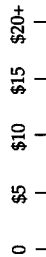
Nine out of ten software engineers earn over \$17.20/hr.



Nine out of ten electrical engineers earn over \$17.00 per hr.

SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



One-half of all computer programmers earn over \$15.36/hr., usually with experience.



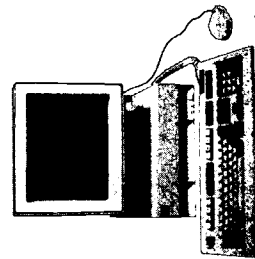
One-half of all systems analyst earn more than \$22.90 per hour, usually with experience.



One-half of all computer engineers earn over \$21.50, usually with experience. One-half of all software engineers earn over \$23.80, usually with experience.



One-half of all electrical engineers earn over \$23.10, usually with experience.

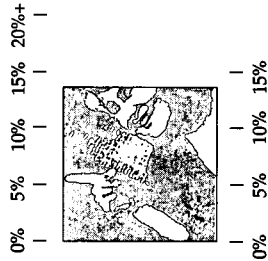


MORE ABOUT COMPUTER FIELDS ON PAGE 52-54.

ENHANCE YOUR COMPUTER SKILLS WITH SHORT-TERM TRAINING, P. 72, PP. 68-71, 74-75.

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).

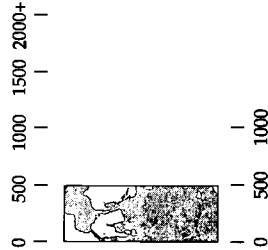


Programming is a field that's growing at an average rate. From 1993-2001, the number of programmers employed will increase 14%.



JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)

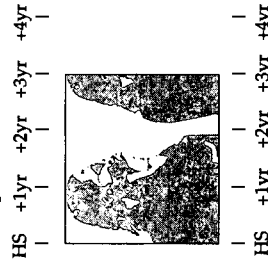


Minnesota will need 510 new programmers yearly to 2001, to fill new positions and to replace retirees.



TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?

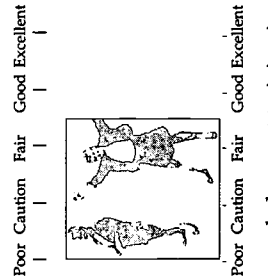


Probably need a 4-yr degree in computer science; but shorter training may be enough if experienced in fields like accounting or inventory control.



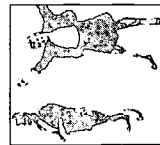
AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Although programming is not expected to grow as rapidly as in the past, prospects are good for the next few years, according to a data processing assn. Another source says that "to remain competitive in today's job market, computer professionals must... keep up with the latest technology." It may help to get training in:

- ◆ Newer languages such as C & C++;
- ◆ Computer networking;
- ◆ UNIX;
- ◆ Personal computer software. See more on pp. 52-54.



Systems analysis is a field that's growing at a very fast rate. From 1993 to 2001, the number of analysts employed will increase 65%.



Minnesota will need 850 new systems analysts yearly to 2001, to fill new positions and to replace retirees.



4-yr. degree or a master's in computer science, math, engineering, accounting; or advance from programmer positions.



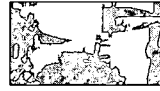
Job outlook is very favorable & should continue so for next few years. When 4-year colleges were asked in Aug 95 to list which majors were most likely to lead to jobs, ten colleges listed *computer science* (2nd highest of all majors) & four listed *mgmt. information systems*. Also, salaries for graduates in these fields are among the highest. Nationally, *U. S. News & World Report* named systems analyst as a "Hot Job Track." More on pp. 52-54.



Computer engineering has a very fast growth rate. From 1993 to 2001, the number of computer engineers employed will increase by 67%.



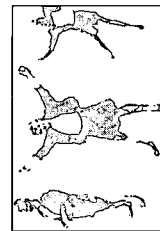
Minnesota will need 740 new computer engineers yearly to 2001, to take new positions and to replace retirees.



Requires a 4-yr. degree in software engineering, computer science, or computer engineering.



The U of M Institute of Technology says that this is "the hottest area of all engineering! The job market is excellent for software design. Lots of companies are looking for computer science majors, but since there are not enough to fill jobs, software engineers are able to fill these positions." The university expects this demand to continue in the future. *U. S. News & World Report* (Oct 94) named software development, computer scientist & computer engineer as "Hot Job Tracks."



Electrical engineering has an average growth rate. From 1993 to 2001, the number of electrical engineers employed will increase by 13%.



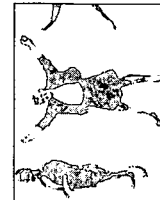
Minnesota will need 250 new electrical engineers yearly to 2001, to take new positions and to replace retirees.



Requires a 4-yr. degree in electrical engineering; in some cases a master's is preferred. In addition, electrical engineers need to pass licensing exam after work experience.



Long term: generally good prospects for employment, despite a down period in hiring in the past couple of years. Cutbacks in defense spending have resulted in layoffs of electrical engineers, but the field has made a comeback.



The U of M Institute of Technology (I.T.) says "the job market for 4-year E.E. grads is strong & steady—it's one of the most likely majors to lead to employment." Nationally, *U. S. News & World Report* named electrical engineer as one of its "20 Hot Job Tracks."

MORE TECHNICAL CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

MECHANICAL ENGINEER

Plan & design tools, engines, machines, & other mechanical equipment. Oversee installation, operation, maintenance, & repair of such equipment as centralized heat, gas, and water systems.

ELECTRONIC TECH

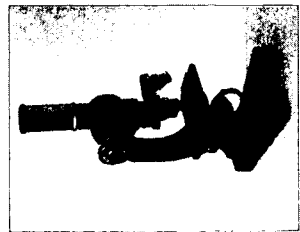
Apply electrical and electronic theory to design, build, test, repair, and modify developmental or production electrical equipment in industrial or commercial plants. Directed by engineering staff.

DRAFTER

Prepare clear, complete, and accurate working plans and detail drawings from rough or detailed sketches or notes, for engineering or manufacturing purposes according to specified dimensions.

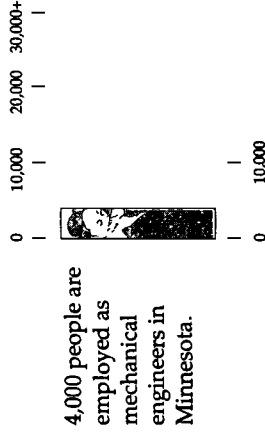
LAB TECHNICIAN

Conduct chemical, biological or physical lab tests. Assist in making lab analyses for research and development of new products, new processes, quality control, or environmental standards.



SIZE OF OCCUPATION

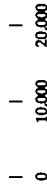
How many paying jobs exist in this occupation in Minnesota (1993).



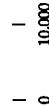
4,000 people are employed as mechanical engineers in Minnesota.



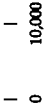
10,390 people are employed as electronic & electrical technicians in Minnesota.



6,140 people are employed as drafters in Minnesota.

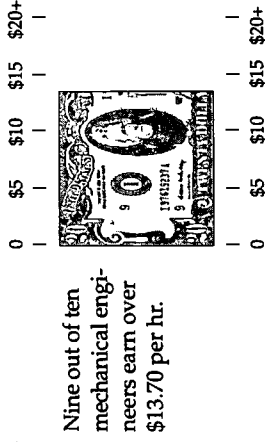


4,570 people in Minnesota are employed as technicians in physical and life sciences.



SALARIES - LOW RANGE

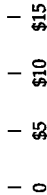
Nine out of ten workers in this occupation earn at least this amount per hour (1994).



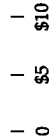
Nine out of ten mechanical engineers earn over \$13.70 per hr.



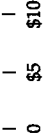
Nine out of ten electrical & electronic technicians earn over \$10.00/hr.



Nine out of ten drafters earn over \$9.21/hr.

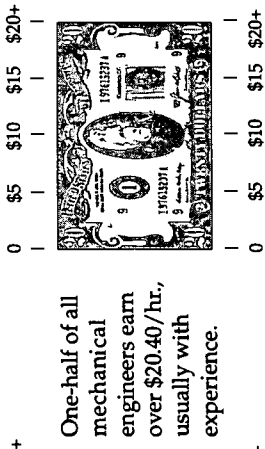


Nine out of ten lab techs earn over \$6.98/hr. (based on Minn. salary survey of chemical, biological, food, & agric. lab techs).



SALARIES - MID RANGE

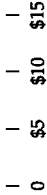
Half of the workers in this occupation earn at least this amount per hour (1994).



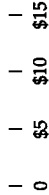
One-half of all mechanical engineers earn over \$20.40/hr., usually with experience.



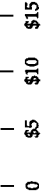
One-half of all electrical & electronic technicians earn over \$14.76 per hour, usually with experience.



One-half of all drafters earn over \$13.07/hr., usually with experience.

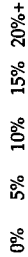


Half of all lab techs earn over \$11.06/hr., usually with exp. (based on Minn. salary survey of chem., biol., food, & agric. lab techs)



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



Mechanical engineering has an above-average growth rate. From 1993 to 2001, the no. of mechanical engineers employed will increase by 21%.



Electrical & electronic technician work has an average growth rate. The no. of electronic technicians will increase by 16%.



Drafting work has an average growth rate. From 1993 to 2001, the no. of drafters employed will increase by 8%.



Lab tech work in physical and life sciences has an above-average growth rate. The no. of lab techs will increase by 21% by 2001.

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 190 new mechanical engineers yearly to 2001, to take new positions and to replace retirees.



Minnesota will need 330 new electrical & electronic technicians yearly to 2001, to fill new positions and to replace retirees.



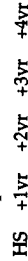
Minnesota will need 240 new drafters yearly to 2001, to fill new positions and to replace retirees.



Minn. will need 210 new lab techs yearly to 2001 in physical and life sciences, to fill new positions and to replace retirees.

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



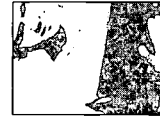
Requires a 4-yr. degree in mechanical engineering. In addition, mechanical engineers need to pass a licensing exam after work experience.



Usual requirement is 2 years of training in electronics, available at tech colleges & other schools.



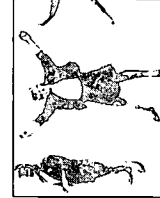
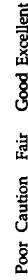
Most employers want a 2-yr tech college drafting degree. A few hire H.S. grads to do tracing, if they've taken drafting courses.



Most employers want a 2-yr lab degree from community or tech college. Some want 4-yr degree. A few hire H.S. grads.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Prospects for jobs are favorable. The U of M says the job market is always very good; this is the most stable of the engineering professions. Long-term prospects are strong also. The U of M suggests enhancing job chances by having an internship, getting extra computer training (since more cooperation with electrical engineers is now common), & balancing technical skills with people skills (many end up in supervisory positions very quickly).



Prospects are looking up. In recent years there's been much competition for jobs —layoffs in the computer industry have meant many qualified job-seekers are available. However, this appears to be turning around. Six tech colleges list electronic technician as a program most likely to lead to jobs. Many schools & businesses see prospects for five years as "excellent" or "good." Also, three tech colleges say telecommunication tech has high placement. But two rate electrical technician low. And one rates bio-medical tech low (see p. 51).



Good chances for jobs. Depends on the workload of both construction & manufacturers of complicated products. A professional assn. says there will be jobs, but training must focus on computer-aided design. Four tech and commun. colleges list drafter as highly likely to lead to jobs. Some schools say placement appears better in 1995 than 1994. However, in the long run, computer-aided design means less demand, because



Fairly good outlook, especially in food science, agriculture, chemistry, engineering, environment, & biology. Job prospects are best with experience on the equipment currently in use in industrial and government labs. Schools' comments: ♦ Majority of jobs are with cos. who do lab & engineering consulting work on contract for another company; not many grads get jobs with large companies anymore. ♦ Environmental tech has really been pretty strong.

ART & WRITING CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

DESIGNERS

Design or arrange objects and materials to achieve artistic or decorative affects. Includes layout artists, graphic designers, art directors, industrial designers (such as product design), and clothes designers.

COMMERCIAL ARTISTS

Design and execute artwork to illustrate subject matter or promote public consumption of materials, products, or services. Artists include commercial artists, keyliners, illustrators, paste-up artists, and artistic painters.

WRITERS & EDITORS

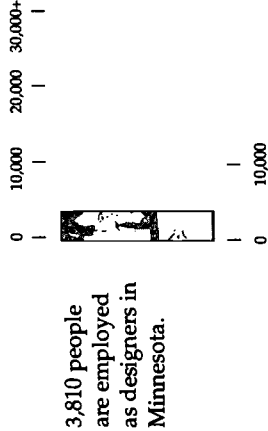
Writers, Editors, Public Relations Specialists, Reporters
Originate and prepare written material such as stories, news items, advertisements, scripts, and other material. Coordinate, edit, and analyze written material.

TECHNICAL WRITER

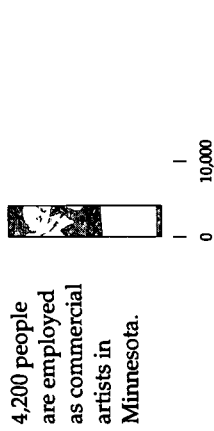
Write or edit technical materials, such as equipment manuals, appendices, and operating and maintenance instructions.

SIZE OF OCCUPATION

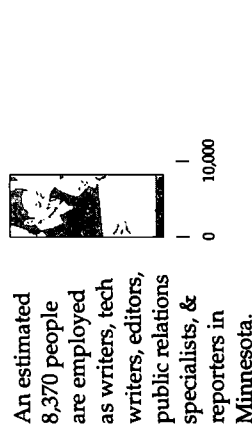
How many paying jobs exist in this occupation in Minnesota (1993).



3,810 people are employed as designers in Minnesota.



4,200 people are employed as commercial artists in Minnesota.



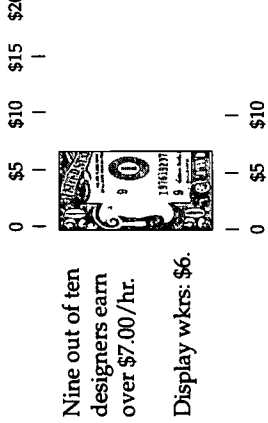
An estimated 8,370 people are employed as writers, tech writers, editors, public relations specialists, & reporters in Minnesota.



An estimated 1,500 to 2,000 people are employed as tech writers in Minn. (Also included in above figures for writers & editors.)

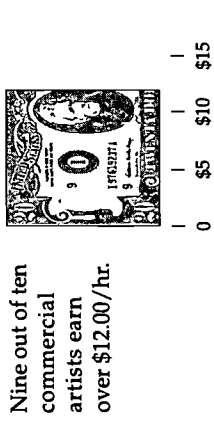
SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).

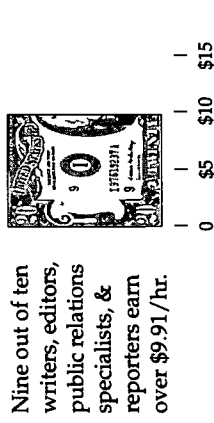


One-half of all designers earn over \$16.50/hr., usually with experience.

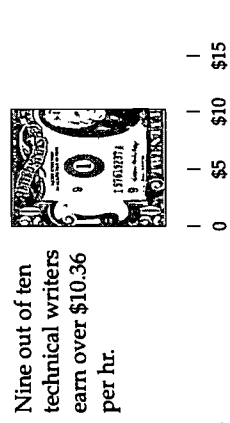
Display wks: \$7.



One-half of all commercial artists earn over \$15.00/hour, usually with experience.



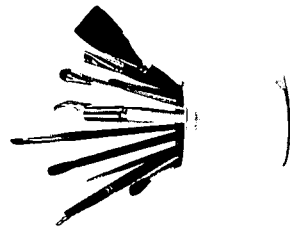
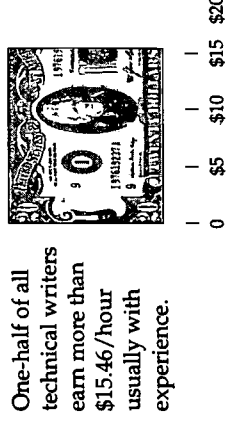
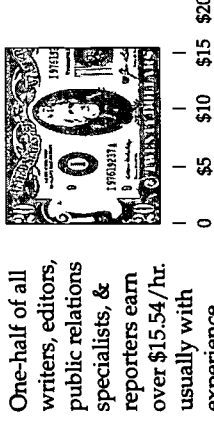
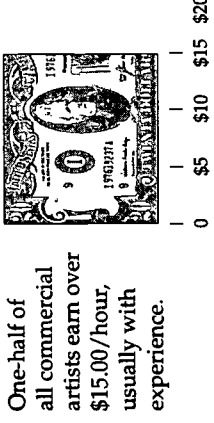
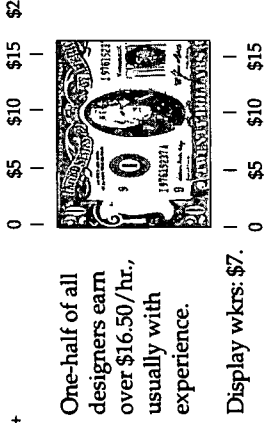
One-half of all writers, editors, public relations specialists, & reporters earn over \$15.54/hr. usually with experience.



One-half of all technical writers earn more than \$15.46/hour usually with experience.

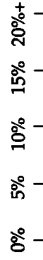
SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



Designer work has an average growth rate. From 1993 to 2001, the number of designers employed will increase by 13%. Others: 15%.



Minnesota will need 120 new designers yearly to 2001, to fill new positions and to replace retirees.

Commercial art has an average growth rate. From 1993-2001, the number of commercial artists employed will increase by 16%.



Minnesota will need 160 new commercial artists yearly to 2001, to fill new positions and to replace retirees.

Work for writers, editors, public relations specialists, & reporters has an average growth rate. From 1993-2001, the number of writers will increase by 17%.



Minnesota will need an estimated 290 new writers, editors, public relations specialists, & reporters yearly to 2001, to fill new positions and to replace retirees.

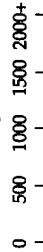
From 1993-2001, technical writing has an average growth rate. The number of technical writers will increase by an estimated 17%.



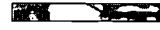
Minnesota will need 50-70 new technical writers yearly to 2001. (These are also included in above figures for writers & editors.)

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



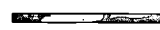
Requires 2 to 4 year degree in design or commercial art. Graphic design: 2-yr tech college or 4-yr. design degree. Industrial design: 4 yrs. in indust. design.



Some positions require a 2-year degree in design or commercial art, some require a 4-year degree.



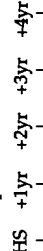
At least a 4-yr degree in journalism; but some jobs require grad work. Helps to have had a writing internship.



Usually need at least a 4-yr degree in a technical field &/or journalism; but some jobs require grad work. Major in technical communication is a plus.

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



HS +1yr +2yr +3yr +4yr



HS +1yr +2yr +3yr +4yr



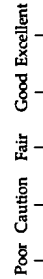
HS +1yr +2yr +3yr +4yr



HS +1yr +2yr +3yr +4yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Keen competition in almost all specialties. Many talented persons are attracted to these fields. It is difficult to keep straight the distinction between *design* & *commercial art*, & between *commercial* & *fine art*. But it's crucial for almost all persons who want to work in art fields to know they need strong training & background in *commercial art* & design (computerized) & in printing (computerized), & that a college degree in "art" is rarely, by itself, an entry into this field (unless a person accumulates some serious, lengthy, technical training in commercial art—and then, even with training, it is still very competitive). Because design is increasingly done by computer, one focus of training should be *computer design*. However, a printing union official says that workers with desktop publishing skills "seem to be a nickel a dozen, except for the very highly skilled. There's little demand for entry level people." Nationally, a field with possibly higher demand is *informational-graphics designer* (US News & World Report, Oct 31 94).



Keenly competitive because so many people are attracted to the writing field. Chances best at small town & suburban newspapers & small radio or TV stations. Outlook is better in technical writing. Nationally, all writing fields are hard to enter. For reporters, heavy competition will continue at large newspapers, at TV & radio stations, & on national magazines. It may help somewhat to become skilled at using data bases & other computer techniques. Internships are advised.



Job outlook is better for technical writers than for other writers. This field has not great, but fair prospects. Talented writers who specialize in scientific or technical subjects have an advantage. Experience in industry is valuable, again in science & technology. Having participated in an internship is a plus. Also, it's wise to learn to use databases & computer techniques.



Job outlook is better for technical writers than for other writers. This field has not great, but fair prospects. Talented writers who specialize in scientific or technical subjects have an advantage. Experience in industry is valuable, again in science & technology. Having participated in an internship is a plus. Also, it's wise to learn to use databases & computer techniques.

FOOD SERVICE, PERSONAL SERVICE,

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

COOKS IN RESTAURANTS, CAFETERIAS, & INSTITUTIONS
Prepare, season, & cook various soups, meats, vegetables, desserts, and other food for the public.

BAKER BREAD & PASTRY
Mix and bake ingredients according to recipes to produce bread, pastries, and other baked goods, for consumption on premises or for sale as specialty baked goods.

HAIRDRESSER & COSMETOLOGIST

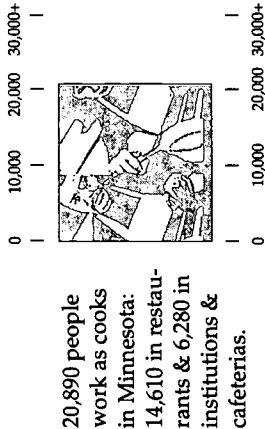
Hairdressers & cosmetologists provide beauty services for customers. Cut & treat hair & scalp, apply makeup, suggest hair styles.

CORRECTION OFFICER

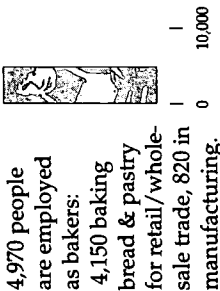
Correction officers and jailers guard inmates in penal or rehabilitative institutions in accordance with established regulations and procedures.

SIZE OF OCCUPATION

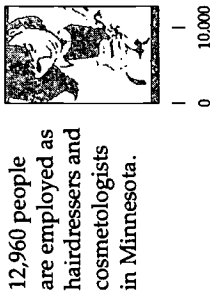
How many paying jobs exist in this occupation in Minnesota (1993).



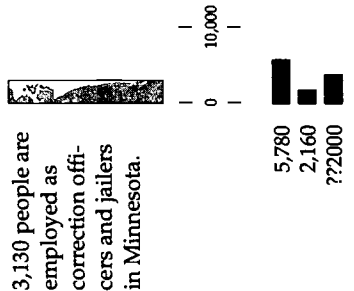
20,890 people work as cooks in Minnesota: 14,610 in restaurants & 6,280 in institutions & cafeterias.



4,970 people are employed as bakers: 4,150 baking bread & pastry for retail/wholesale trade, 820 in manufacturing.



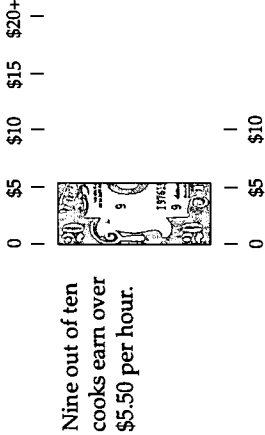
12,960 people are employed as hairdressers and cosmetologists in Minnesota.



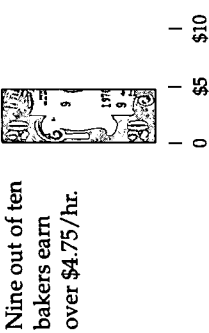
3,130 people are employed as correction officers and jailers in Minnesota.

SALARIES - LOW RANGE

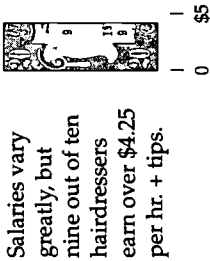
Nine out of ten workers in this occupation earn at least this amount per hour (1994).



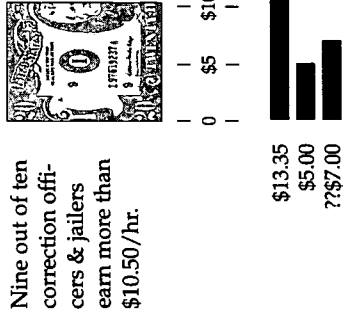
Nine out of ten cooks earn over \$5.50 per hour.



Nine out of ten bakers earn over \$4.75/hr.



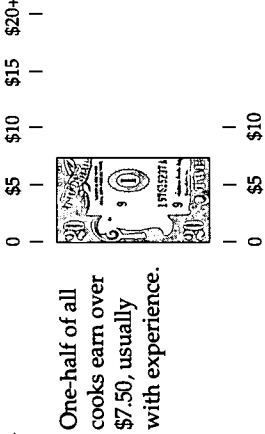
Salaries vary greatly, but nine out of ten hairdressers earn over \$4.25 per hr. + tips.



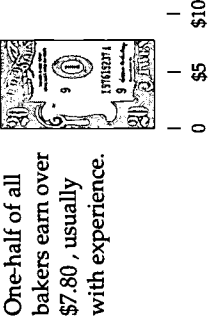
Nine out of ten correction officers & jailers earn more than \$10.50/hr.

SALARIES - MID RANGE

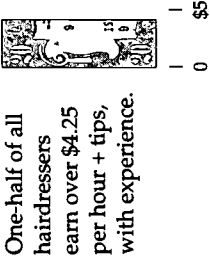
Half of the workers in this occupation earn at least this amount per hour (1994).



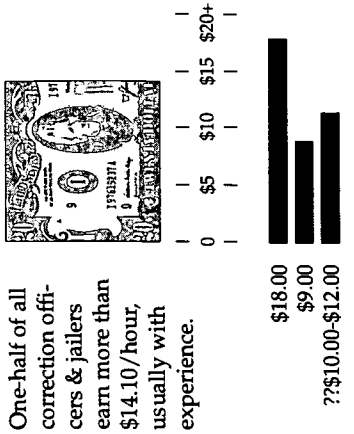
One-half of all cooks earn over \$7.50, usually with experience.



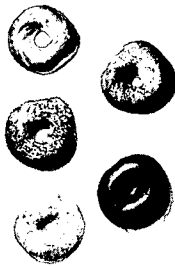
One-half of all bakers earn over \$7.80, usually with experience.



One-half of all hairdressers earn over \$4.25 per hour + tips, with experience.

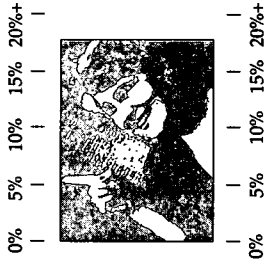


One-half of all correction officers & jailers earn more than \$14.10/hour, usually with experience.



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



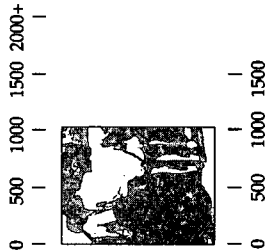
Cooking has an above-average growth rate. The no. of cooks will rise 18%. (24% in restaurants, & 5% in cafeterias & institutions.)



Minnesota will need 1,040 new cooks yearly to 2001, to fill new positions and to replace retirees (830/yr. in restaurants).

JOB OPENINGS

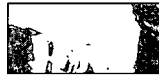
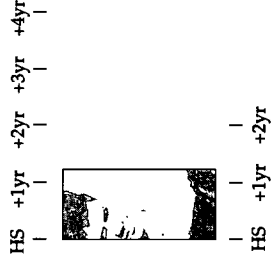
How many job openings per year will be available for new workers (average till 2001)



To become a dinner cook or chef, need either training at technical college (10-20 mos), or apprenticeship (on-the-job).

TRAINING NEEDED

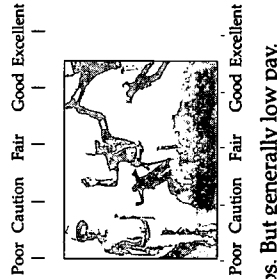
How much full-time training is generally needed to enter this occupation?



HS +1yr +2yr

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Poor Caution Fair Good Excellent

Baking has above-average growth. From 1993-2001, the no. of bakers employed will increase 22%, mostly in the Twin Cities. (Only 5% mfg.)



Minnesota will need 270 new bakers yearly to 2001, to fill new positions and to replace retirees (240/year are needed in retail & wholesale; only 30 in mfg.)



H.S. desirable, but not always necessary. Training available in various ways: On-the-job Apprenticeship Tech college Military.

Hairdressing is growing at an above-average rate. From 1993-2001, the number of jobs available will increase 20%.



Minnesota will need 490 new hairdressers & cosmetologists to fill new jobs & to replace & to replace retirees.



Training for cosmetologists: 9-10 mos. at private schools or public tech colleges. Also need to pass license test.

New job growth for correction officers & jailers is very high. From 1993-2001, the number employed will increase by 43%.



Minnesota will need 270 new correction officers and jailers each year to 2001, to fill new positions and to replace retirees.



H.S. grad/GED, 21 yrs. old. Some employers want 2-year training program. Expect drug-screening & a background check.

Job prospects are fair to good. Quite good in restaurants and in smaller, storefront bakeries, especially for trained specialty bread bakers. But in the large-scale manufacture of baked goods, the outlook is only fair. People seeking work in factory settings, baking large quantities of breads, cakes, & sweet rolls, will have a harder time finding jobs.



Job prospects are very favorable. Nail technician (*manicurist*) is an especially fast-growing specialty. Another growing field is *skin-care*. According to a cosmetologists association, the job outlook for the next 5 to 8 years is "great," if a person gets licensed, then stays in the field long enough to build clientele.



Poor Caution Fair Good Excellent

The correction officer field is not only growing very fast, but will also have a large number of new jobs till 2001. A union official says that present job availability (Oct 95) is excellent & anticipates the same for the next 5-8 years. Twin Cities jail staffs have greatly increased in the past ten years. A new private prison was recently built in Appleton. Also a proposed new prison in St. Cloud would add many jobs.



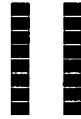
10%
12%
Nat'l: very high



270
100
??



Community College or Tech. Coll.: 2yr
HS grad, health & physical exam
2yr: College + WorkExp.



Keen competition. Some improvement next 5 yrs due to retirements
Keen competition
Very keen competition



MECHANICAL CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

MACHINE MECHANIC & MILLWRIGHT

Machinery mechanics repair & maintain industrial machines which are used in factory production, processing, printing, etc. Millwrights install, move & repair machinery & heavy equipment.

AUTO MECHANIC

Adjust, repair, and overhaul automotive vehicles. May have specialty: brakes, transmissions, front-end.

OTHER VEHICLE MECHANICS

Auto Body Mechanics
Diesel, Bus, & Truck Mechanics
Heavy Equipment Mechanics
Farm Equipment Mechanics
Aircraft Mechanics
Adjust and repair vehicles.

OTHER VEHICLE MECHANICS, JOB AVAILABILITY
(Continued from last column, next page.)

◆ (*Auto body continued*): Nevertheless, *auto body* is listed by 3 tech colleges as a field *most* likely to lead to jobs, but it's also listed by 3 tech colleges as a field *least* likely to lead to jobs which pay relatively well. The amount of work depends on the weather: if it's not raining or snowing, then there's not so much work.

SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).

0 10,000 20,000 30,000+



7,780 people work in these two occupations in Minnesota: 6,520 as industrial machine mechanics, 1,260 as millwrights.



13,510 people are employed as automotive mechanics in Minnesota.



13,130 people work as auto body, bus & truck mechanics, etc. in Minnesota.
AutoBody 3,980
Bus-Truck 4,690
Heavy Eq. 2,740
FarmEq. 1,720

◆ **Diesel mechanic**: For those who finish training, jobs are plentiful. A mechanics union says: "Good prospects for qualified mechanics (it's wise to specialize in one engine such as Detroit, Caterpillar, Cummins). It's heavy work which can cause health problems as a mechanic gets older, and also the pollution that you get when you start up a diesel after 2 days in the shop is tremendous, breathing that smoke, etc. Cost of tools is very high, because

SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).

0 \$5 \$10 \$15 \$20+



Nine out of ten workers in these two occupations earn over \$8.75 per hour.
Mechanics: \$9.90/hr.
Millwrights: 7.00/hr.



Nine out of ten automotive mechanics earn over \$9.46/hr.



Nine out of ten auto body, bus & truck mechanics, etc. earn more than \$9.36/hr.
AutoBody \$8.50
Bus-Truck \$9.00
Heavy Eq.\$11.42
Farm Eq. \$8.00

SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).

0 \$5 \$10 \$15 \$20+



One-half of all workers in these two occupations earn over \$13.50 per hour.
Mechanics: \$13.65/hr.
Millwrights: \$15.10/hr.

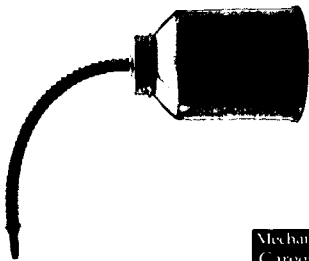


One-half of all automotive mechanics make over \$13.06 /hr., usually with experience.



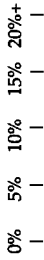
Half of all these mechanics make over \$14.47 / hr., usually with experience.
AutoBody\$12.90
Bus-Truck\$13.93
Heavy eq.:\$15.31
Farm Eq.: \$10.00

for power train specialists (that is, transmission & rear end).
If working outside Twin Cities area, mechanics should try to get into trucking fleet, because wages are generally lower where there is no union.
Two technical schools list *truck mechanic* as one of their programs most likely to lead to jobs, and two say *truck mechanic* as one of their programs most likely to lead to jobs which pay relatively well.



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



These two fields have a below-average growth rate. From 1993 to 2001, the no. of jobs will go up only 4%. (4% mechanics & 7% millwrights.)



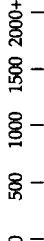
New job growth for mechanics is average. From 1993-2001, the number of mechanics employed will increase by 13%.



As a group, these fields will grow at an average rate of 9%. But the rate of each is different:
Auto body: 17%
Bus/Truck: 11%
Farm Equip: 1%
Heavy Equip: -2%

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 230 new workers in these fields yearly, to fill new job openings and to replace retirees. (180 mechanics & 50 millwrights.)



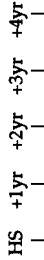
Minnesota will need 590 new automotive mechanics each year to 2001, to fill new positions and to replace retirees.



Minnesota will need 480 new mechanics every year till 2001.
Auto body: 180
Bus/Truck: 180
Farm Equip: 80
Heavy Equip: 40

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



Training in these fields at technical colleges generally takes 18-24 mos. However, most jobs are filled thru a bid system based on seniority & experience.



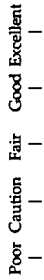
Some automotive mechanics train at technical colleges (18-20 mos.). Others learn through dealership apprenticeships. Very few gas stations train mechanics.



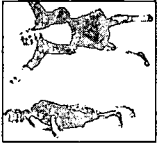
Training time at tech colleges:
Auto body: 9-18
Truck: 18-24 mos
Farm Equip: 20
Heavy Equip: 18
Aircraft: 22 mos.
Apprenticeships available too (but not for aircraft).

AVAILABILITY OF JOBS

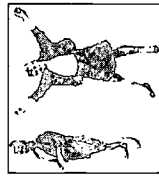
What is the job market like for this occupation? How easy is it to find jobs?



Job outlook is average. Unions say that best job prospects are for those trained in electronic repair (CNC—computer numerical control). Nationally, the number of jobs for machinery repairers will decrease till 2005 as more factories use automated production equipment that requires less repair than existing machines. In Minnesota, a union says, when job openings occur, they're usually filled by workers inside a company. Still, two tech colleges say *maint. mechanics* have very good prospects.



For those who finish technical college training, job prospects are very good, especially with electronics. Ten technical colleges list *auto mechanic* as one of their programs most likely to lead to jobs. Persons with little or incomplete training will face strong competition. A union says the job outlook is "good for qualified mechanics, excellent for transmission specialists." Most new jobs will be in repair shops & car dealerships.



Auto Body: Good outlook for well-trained auto body mechanics. However, a mechanics union says that, because of the increase in the number of very large auto body shops, small shops have closed down and car dealers have closed their body shops. Therefore, very few auto body people are in union shops now, wages have gone down, and there are not nearly the retirement & insurance benefits there used to be. (Other mechanics continued in column 1, bottom of previous page)

◆ Farm Equipment Mechanics: Very few new jobs in farm equipment repair will be produced in Minnesota from 1993 to 2001. Farmland consolidation & more efficient farm practices will hold down demand, but the tendency of farmers to make fewer of their own repairs will increase it. The result will be almost zero or very little growth. Prospects should be best for people who complete formal training in farm equipmt. repair or diesel mechanics.

◆ Heavy Equipment Mechanics: An actual decrease in the number of jobs for mobile heavy equipment mechanics is predicted in Minnesota from 1993 to 2001. Prospects should be best for people who complete formal training programs in diesel or heavy equipment mechanics. ◆ Aircraft mechanics: An airline union says that "the outlook for airline mechanics is still fair to poor in Minnesota. It's bet-

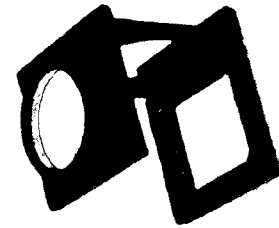
ter in the southeast and southwest U.S. where there are new startup air companies, but those companies also pay lower nonunion wages—wages are half as high as here.... The outlook is better here for machinists & plant (or facility) maintenance mechanics—one Minnesota airline has a big machine shop & also has been hiring more maintenance mechanics (that is, they start maintaining buildings, vehicles, and heating & cooling systems

and can eventually hope to move into those aircraft maintenance positions which don't require licensing).... There are *not* good job prospects for airplane mechanics with little experience. *Poor* chance for a job coming out of training right now. What would improve job chances? A lot of well-rounded maintenance experience There's a glut of airline mechanics around the country." National predictions point to a slower than average growth in the number of jobs due to productivity gains resulting from greater use of automated inventory control and modular systems which speed repairs and parts replacement. Prospects are likely to be best in general aviation.

PRECISION MACHINE CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.



PRINTER, PRE-PRESS

Mostly "pre-press" workers, who prepare an original printing job before it is run on a printing press. They may be typesetters, page composers, photoengravers, strippers, platemakers. Increasingly they do this work by computer.

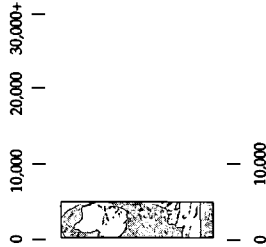
PRINTING MACHINE OPERATORS & TENDERS

Set up, operate and/or tend printing machines such as offset presses, letterpresses, screen printing machines, bindery machines, and litho & photoengraving machines.

Precision Machine

SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).



4,820 people are employed as pre-press workers in the printing industry in Minnesota.



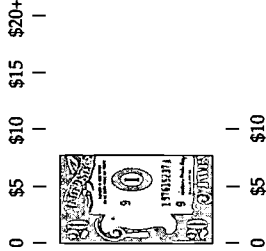
13,200 people are employed as printing machine operators and tenders in Minnesota.



In Minnesota 10,890 people work in these two occupations: 7,790 as machinists, and 3,100 tool & die makers.

SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).



Nine out of ten pre-press workers earn over \$7.79 per hr.



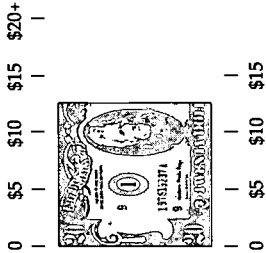
Nine out of ten printing machine operators and tenders earn over \$8.02/hr.



Nine out of ten machinists earn over \$9.70/hr. Nine out of ten tool and die makers earn over \$10.50/hr.

SALARIES - MID RANGE

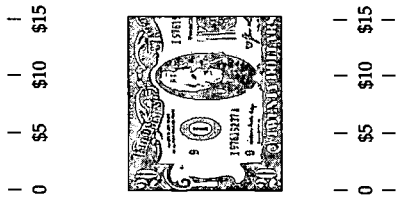
Half of the workers in this occupation earn at least this amount per hour (1994).



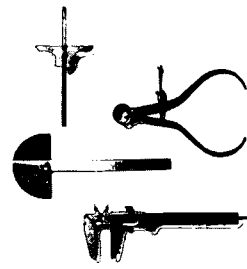
One-half of all pre-press workers earn over \$12.72/hour, usually with experience.



One-half of all printing machine operators and tenders earn over \$13.71/hr., usually with experience.



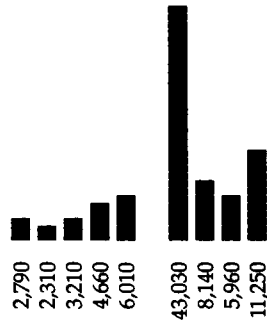
One-half of all machinists earn over \$15.20/hr. Half of all tool & die makers earn over \$15.75/hr., usually with experience.



MACHINISTS and TOOL & DIE MAKERS

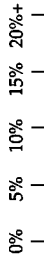
Machinists set up and operate machine tools to make and repair metal parts. Tool & die makers produce precision tools used to cut and form metal; they also make dies and jigs and fixtures.

Numerical control machine tool, metal/plastic
Combination machine tool setup/operator
Heating/Air conditioning/Refrigeration mechanics
Sheet metal workers
Welders and cutters



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



Pre-press work has an average growth rate. To 2001, the no. of pre-press workers will increase by 16%. (47% rise in electronic pagination system operators.)

Minnesota will need 230 new pre-press workers yearly to 2001, to fill new positions and to replace retirees. (60 new electronic pagination operators.)



Printing machine work has an average growth rate. From 1993 to 2001, the no. of printing machine operators & tenders will increase by 14%.



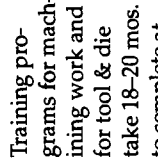
Minnesota will need 510 new printing machine operators and tenders yearly to 2001, to fill new positions and to replace retirees.



Job growth for machinists and tool & die makers is below average. From 1993-2001, the no. employed in each occupation will increase by only 4%.



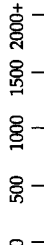
Minnesota will need 200 new machinists and 100 new tool & die makers yearly to 2001, to fill new positions and to replace retirees.



Skills can also be learned thru 4-yr apprenticeship on-the-job.

JOB OPENINGS

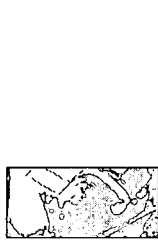
How many job openings per year will be available for new workers (average till 2001)



Printing training (or graphic communication) at technical colleges takes 12-18 mos. Some on-the-job training thru apprenticeship is available.



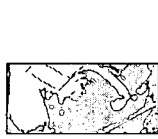
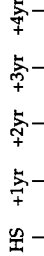
Many workers start as helpers in printing cos. and are trained on-the-job. Apprenticeships are also available. Or tech college training takes 12-18 mos.



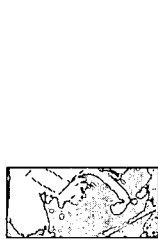
Printing training (or graphic communication) at technical colleges takes 12-18 mos. Some on-the-job training thru apprenticeship is available.

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



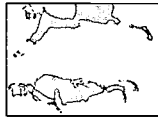
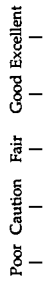
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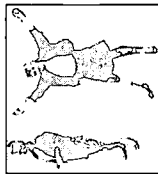
Many workers start as helpers in printing cos. and are trained on-the-job. Apprenticeships are also available. Or tech college training takes 12-18 mos.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



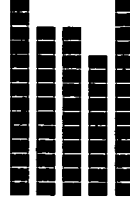
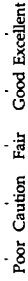
In the past 20 years, the printing industry has shifted to computerization in typesetting and page layout, resulting in fewer new jobs. Older occupations have suffered: a printing assn. says job prospects are "very poor for typesetters, compositors, & platemakers." Considerable demand exists in the printing industry for pagination & desktop operators, which are newer, highly computerized jobs. However, many trained applicants are available for those jobs & starting pay is \$6.50/hr.



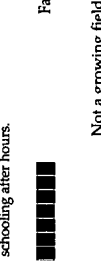
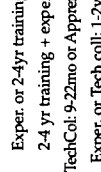
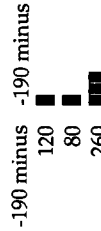
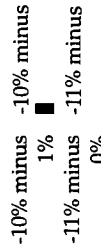
For printing press operators, the job outlook is good. Jobs for *offset, gravure, & flexographic* press operators will increase somewhat. Several tech colleges list printing (or graphic arts) as highly likely to lead to jobs. One source says that entry positions are available in *binderies* (starting wages of \$7-8/hr. & jobs are not very glamorous, but workers can advance from there). Also, companies are offering entry level training for pressroom helpers, jobs which pay more.



Prospects for machinists and tool & die makers are very good. For 4 or 5 years there's been a demand for machinists, & although it cooled off briefly in mid-1995, an association of machine shops said in Feb 96, "We can't get enough qualified people." Twelve tech colleges in Aug 95 listed Machine Tool as a field *most* likely to lead to jobs (2nd highest of all union & employer 2-yr. training programs). Best job opportunities exist for machinists (computer numerical control). See more on pp. 55-56.



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Shrinking occupation; caution
Fair to good for trained & experienced
Shrinking occupation; caution
Not a growing field at all, due to new quality methods

CONSTRUCTION CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.



CARPENTERS

Construct wood structures in buildings and/or repair woodwork.

ELECTRICIANS

Install, maintain, and repair wiring, electrical equipment, and fixtures. Ensure that work is in accordance with relevant codes.

PLUMBERS, PIPEFITTERS, AND STEAMFITTERS:

Assemble, install, alter, and repair pipe systems (metal, plastic, ceramic, composition, etc.) that carry water, steam, air, or other liquids or gases.

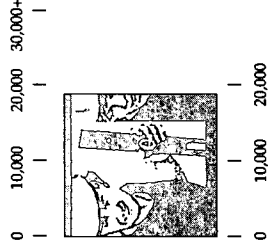
PAINTERS and PAPERHANGERS

Paint walls, equipment, buildings, bridges, and other structural surfaces using brushes, rollers, and spray guns; or cover interior walls and ceilings of rooms with decorative wallpaper or fabric.



SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).



18,950 people work as carpenters in Minnesota.



8,850 people are employed as electricians in Minnesota.



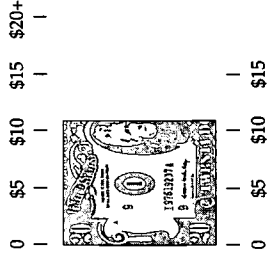
5,520 people are employed as plumbers, pipefitters, & steamfitters in Minnesota.



6,170 people are employed as painters and paperhangers in Minnesota.

SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).



Nine out of ten carpenters earn over \$11.00/hr.



Nine out of ten electricians earn over \$14.86/hr.



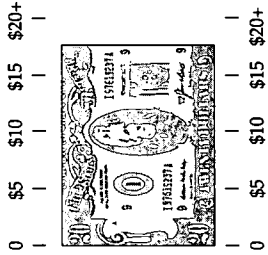
Nine out of ten plumbers, pipefitters, and steamfitters earn over \$15.48/hr.



Nine out of ten painters and paperhangers earn over \$10.00/hr.

SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



One-half of all carpenters earn over \$17.82/hr., usually with experience.



One-half of all electricians earn over \$19.95/hr., usually with experience.



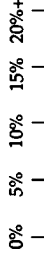
One-half of all plumbers, pipefitters, and steamfitters earn over \$21.01/hr., usually with experience.



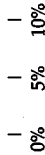
One-half of all painters and paperhangers earn over \$20.01/hr., usually with experience.

GROWTH RATE

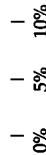
How fast this occupation is growing. (Percent increase from 1993 to 2001).



Carpentry has a below-average growth rate. From 1993 to 2001, the number of carpenters employed will increase by 7%.



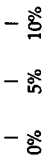
Electrician work has a below-average growth rate. From 1993 to 2001, the number of electricians employed will increase by 7%.



Work in the plumbing, pipefitting & steamfitting fields has a below-average growth rate. From 1993-2001, the number employed will increase by 4%.

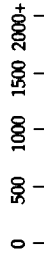


Painting and paperhanging work has an average growth rate. From 1993 to 2001, the number of painters & paperhangers employed will increase by 9%.

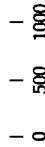


JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 560 new carpenters yearly to 2001, to fill new positions and to replace retirees.



Minnesota will need 250 new electricians yearly to 2001, to fill new positions and to replace retirees.



Minnesota will need 150 new plumbers, pipefitters & steamfitters yearly to 2001, to fill new positions and to replace retirees.

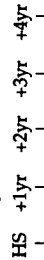


Minnesota will need 210 new painters and paperhangers yearly to 2001, to take new positions and to replace retirees.

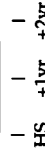


TRAINING NEEDED

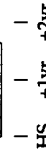
How much full-time training is generally needed to enter this occupation?



H.S. graduation, plus apprenticeship or completion of 18-22 month carpentry training in a technical school.



Training for electricians at a technical college lasts 18-22 mo. Apprenticeship is another option for training.



H.S., plus apprenticeship, or 9-11 months training at a technical college.

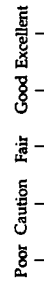


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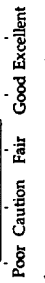


AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Job prospects are fair to good. Five technical colleges list *carpentry* as a field *most* likely to lead to related jobs. An apprenticeship official says "we've had a couple good years for both journeymen and apprentices, and we expect that this will be a continuing trend for the next 2-3 years" [if interest rates remain low]. A builders assn. says "the highly-skilled carpenter will be in demand. ...People who demonstrate good skills get a reputation."



Job outlook is fair to good. An electricians union states that "construction is by its nature temporary, with peaks & valleys. In the Twin Cities, prospects will be good for the next couple years, maybe the next 4 to 5 years, because lots of big projects are coming up. However, this good situation might fade with a rapid rise in interest rates." Five tech colleges list *Construction Electrician* as one field most likely to lead to related jobs.



Job prospects should be fair to good. One union said in Aug 95, "Right now the job outlook is pretty good, but it's seasonal, of course." Another union says: "There are good & bad times for plumbers: We're in an upturn....But 3 years ago, 200 to 300 plumbers were not working." A third union says *pipefitters* who can service heating & air conditioning systems have the best prospects. Two tech colleges list *Plumbing* as a field highly likely to lead to jobs.



A Twin Cities painters union said in Aug 95 that "painters have overwhelming job availability right now; people are needed. Projects are working overtime schedules & overtime pay." The union says painting "hasn't been seasonal the last 2 winters....If they can paint, spray, & are not afraid of heights, they can work steadily in this field." Also, demand has been good for paperhangers and drywall installers — "contractors grab them and keep them for a long time."

CONSTRUCTION & DRIVING CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

GENERAL BUILDING REPAIRPERSONS

Use more than one trade to do general repair and maintenance on machines, equipment, and/or structure of a building. Might involve plumbing, welding, machining, carpentry, electrical.

HEAVY TRUCK DRIVERS

Drive tractor-trailer combination or truck with a capacity of at least 3 tons to transport and deliver goods, livestock, or materials in liquid, loose or packaged form. May be required to unload truck.

LIGHT TRUCK DRIVERS

Drive truck, van, or automobile with a capacity under 3 tons. May drive light truck to deliver or pick up merchandise and load and unload truck. Includes delivery & route drivers.

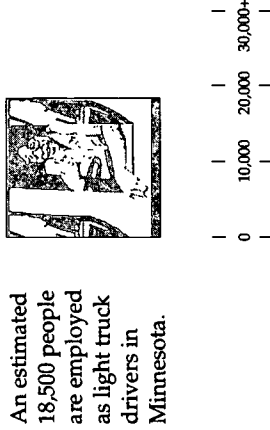
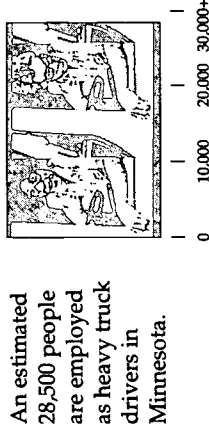
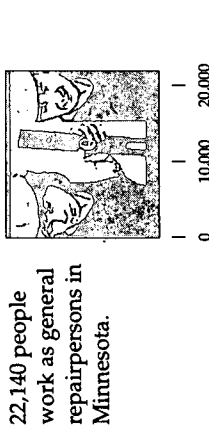
CONSTRUCTION WORKERS
Bricklayers and stone masons
Drywall installers & finishers

VEHICLE DRIVERS

Bus drivers (not school bus)
School bus drivers
Grader, dozer, scraper operators
Heavy equip. operator (Operating engineer)
Highway maintenance workers

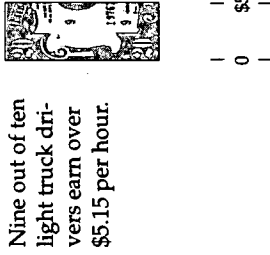
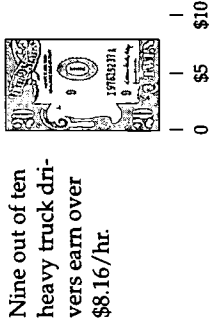
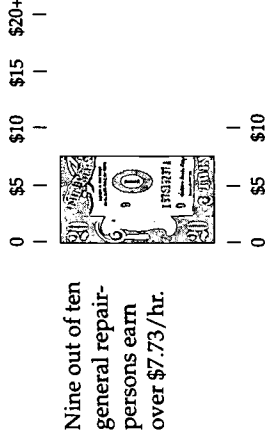
SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).



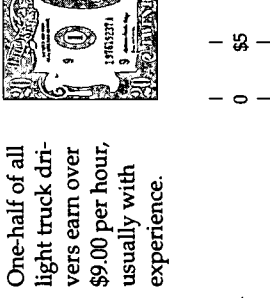
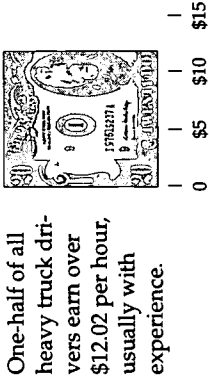
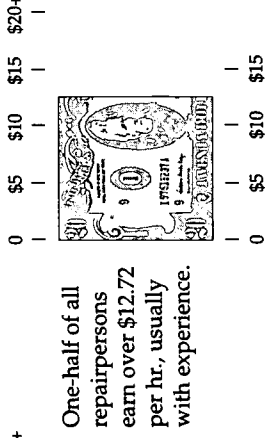
SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).



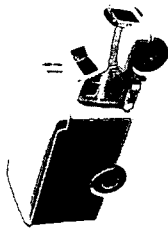
SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



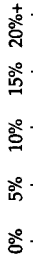
\$20.85
Not available

\$16.40
\$8.50
\$19.30
\$15.40
\$13.80



GROWTH RATE

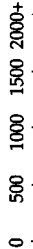
How fast this occupation is growing. (Percent increase from 1993 to 2001).



General repair work has an average growth rate. From 1993 to 2001, the number of general repairpersons employed will increase by 16%.

JOB OPENINGS

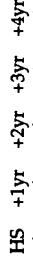
How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 770 new repairpersons yearly to 2001, to fill new positions and to replace retirees.

TRAINING NEEDED

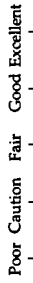
How much full-time training is generally needed to enter this occupation?



Need solid familiarity with 2-4 construction trades. Tech colleges also have 18-20 mo. training programs. May need boiler's license.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



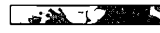
Job prospects should be fair to good. Many job openings, but also many applicants. Chances are best with a steady work history & experience doing building repair. One tech college lists *building mechanic* as highly likely to lead to jobs. Nationally: faster-than-average increase in the number of jobs for repairpersons who use plumbing, carpentry, & electrical skills to do maintenance on office buildings, apartments, stores, schools, hospitals, hotels, and factories.



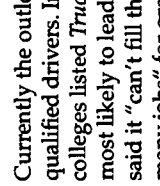
Heavy truck driving work has an average growth rate. From 1993-2001, the number of heavy truck drivers employed will increase by 14%.



Minnesota will need an estimated 940 new heavy truck drivers yearly to 2001, to take new positions and to replace retirees.



H.S., plus physical & special driving exams. 4-8 mo. tech college is available. Or may need experience as a light truck driver. Some train as driver's helpers or dock workers.



Currently the outlook is good for qualified drivers. In Aug 95 three tech colleges listed *Truck Driving* as a field most likely to lead to jobs. One school said it "can't fill these jobs; there are many jobs" for graduates. A union said in Oct 95, "in the future there will be a definite demand, ...not just for the next one or two years, but for the next ten years, because so many of the current drivers are nearing retirement age. So a whole new group of drivers will be needed to replace them."



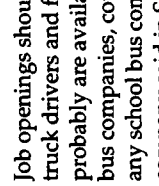
Light truck driving work has an average growth rate. From 1993-2001, the number of light truck drivers employed will increase by 14%.



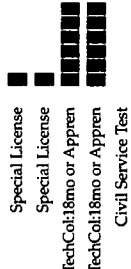
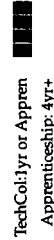
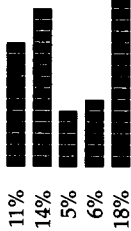
Minnesota will need an estimated 620 new light truck drivers yearly to 2001.



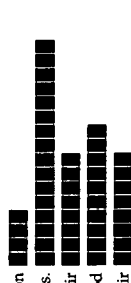
H.S. grad is desirable. Must pass physical, written, and driving exams. Available training: 4-8 mo. at tech colleges.



Job openings should be good for light truck drivers and for bus drivers. Jobs probably are available with handicap bus companies, courier companies, & any school bus companies. A delivery company said in Sept 95, "Present job availability is great. We see this demand continuing indefinitely....A person can increase chances of getting a job by being flexible with hours." Another delivery company says they have many jobs they can't fill, even daytime shifts.



"Tech college" or "Tech Coll" mean that technical college training is available.
"Appren" means that, if you are accepted by the union & an employer, 2-4 years of apprenticeship training is available on-the-job, plus schooling after hours.



SALES CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

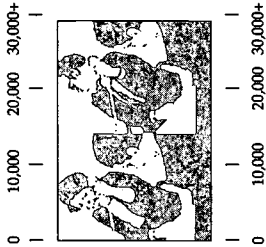
SALES REPRESENTATIVES

FOR WHOLESALERS & MANUFACTURERS
Sales representatives for wholesalers & manufacturers sell goods and services to other businesses. They not only sell to established customers but also find new ones.



SIZE OF OCCUPATION

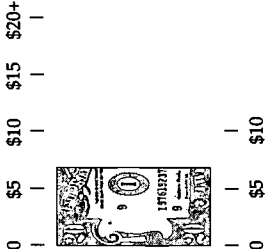
How many paying jobs exist in this occupation in Minnesota (1993).



29,160 people work as sales representatives for wholesalers & manufacturers in Minnesota.

SALARIES - LOW RANGE

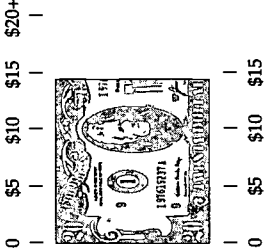
Nine out of ten workers in this occupation earn at least this amount per hour (1994).



Nine of 10 sales representatives earn more than \$7.00/hr.

SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



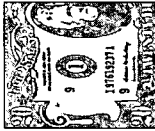
One-half of all sales representatives earn over \$14.47/hour, usually with experience.

TECHNICAL SALES

Sell scientific & technical products such as aircraft or agricultural supplies, industrial machinery, medical supplies, chemicals, & instruments, by using scientific knowledge such as biology, engineering, chemistry, or electronics.



9,920 people sell scientific and technical products in Minnesota.



90% of all people who sell scientific and technical products earn over \$11.14/hr.



One-half of all people who sell scientific and technical products earn over \$20.19 per hr, usually with experience.

SALES AGENTS,

BUSINESS SERVICES

Sell services to businesses, services such as advertising, building maintenance, credit reporting, bookkeeping, security, printing & storage (that is, services other than insurance, financial, or real estate).



32,520 people are employed in sales of business services in Minnesota.



Nine out of ten advertising sales agents earn over \$7.00/hr. Nine out of ten sales agents of other business services earn over \$9.10/hr.



One-half of all advertising sales agents earn over \$12.40 per hour, usually with experience. Half of all sales agents of other business services earn over \$14.40.

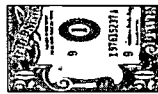
SALES OF SECURITIES

& FINANCIAL SERVICES

- ◆ Buy and sell securities upon customers' request; or
- ◆ Call upon businesses and individuals to sell financial services for banks and for savings and loan associations.



5,240 people are employed as securities and financial services salespersons in Minnesota.



Nine out of ten securities and financial services salespersons earn more than \$7.66/hr.

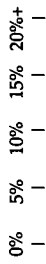


One-half of all securities and financial services salespersons earn over \$13.85 per hour, usually with experience.



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



Sales rep work has a below-average growth rate. From 1993 to 2001, the number of sales representatives employed will increase 6%.



Scientific and technical sales has a below-average growth rate. From 1993 to 2001, the number employed will increase by 7%.



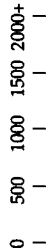
Sales of business services has an average growth rate. From 1993 to 2001, the number of sales agents of business services will increase by 10%.



Securities and financial services saleswork has an above-average growth rate. From 1993-2001, the number of salespersons will increase by 18%.

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



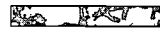
Minnesota will need 830 new sales reps yearly to 2001, to fill new positions and to replace retirees.



Minnesota will need 300 new salespeople for scientific and technical products yearly to 2001, to fill new positions and to replace retirees.



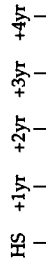
Minnesota will need 980 new sales agents of business services yearly till 2001, to take new positions and to replace retirees.



Minnesota will need 180 new securities and financial services salespersons yearly to 2001, to fill new positions and to replace retirees.

TRAINING NEEDED

How much full-time training is generally needed to enter this occupation?



Some companies promote current employees. Increasingly, cos. want a 4-yr. degree; some consider a 2-yr. degree. Others hire those with excellent sales experience.



Most employers require a 4-year college degree in science or engineering.



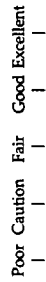
Employers look on good sales experience as valuable. Some jobs also require a 4-year degree, some a 2-year degree, & some less.



Many positions require a 4-year degree with a major in marketing or business; some require only a 2-yr. degree. Good sales experience is a valuable asset.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Prospects for sales reps are mixed—some say fair, but others say poor. A wholesale company said in August 1995 that the job market "is confusing. Consolidations are continuing and... fewer customers exist," so fewer sales reps are needed. There is some indication of a surplus of *commission sales people* in Minnesota. It appears there's a substantial, continuing need, but considerable competition. An association of sales representatives added that it may help to be computer-literate.



Due to the increasing technical complexity of many products, prospects should be good for *technical & scientific sales*—better than most other occupations that require a 4-year college degree, & better than other big-ticket sales fields. People with both technical abilities and sales skills should find a demand in coming years. For example, one U of M campus listed *agricultural industries sales & management* as highly likely to lead to jobs.



Prospects for sales agents of business services will probably be fair to good, especially for college grads or persons with proven sales records. However, some companies may need fewer workers, due in part to the use of technologies, such as voice mail, cellular telephones, & laptop computers, which help each worker to accomplish more. Mastering the use of these technologies may be wise. Two rising fields: travel sales and home health care sales.



Keen competition exists for *securities sales jobs* ("stock brokers") due to the potential for high pay. But the *financial sales* field in banks & other financial institutions offer fairly good prospects, as they offer an increasing array of financial services. The number of new jobs in these fields will increase at an above-average rate from 1993 to 2001. But, as with all commission sales, there appears to be a fair supply of candidates for jobs.

SALES CAREERS

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

INSURANCE AGENT

Sell and explain insurance to clients. Types of insurance might include life, car, household, accident, fire, endowment. Might be employed by an insurance company or might be an independent broker.

TRAVEL AGENTS &

RESERVATION AGENTS

Travel agents plan trips for customers of a travel agency, including destination, transportation, travel dates, costs, hotels. Reservation agents make ticket reservations for airline & bus companies, etc.

REAL ESTATE AGENT

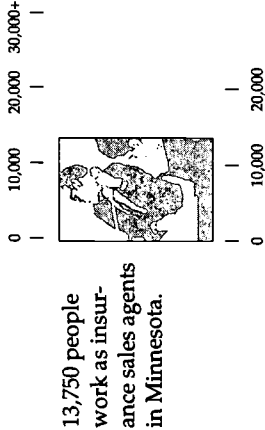
Real estate sales agents sell or rent property to clients on a commission basis. Sometimes buy property. Study property listings, interview clients, show them property, discuss conditions of a sale, draw up real estate contracts.

RETAIL STORE SALES

Sell any of a wide variety of goods in a store. Many sell less costly items (clothing, accessories, etc.), usually at low hourly pay. A few sell big-ticket items—furniture, cars, appliances, electronics—usually for commission and higher pay.

SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).

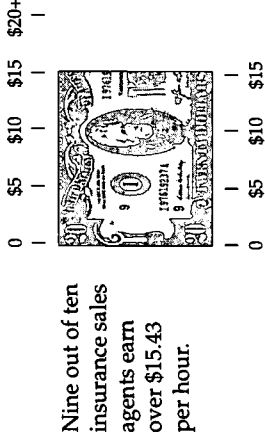


13,750 people work as insurance sales agents in Minnesota.



SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).

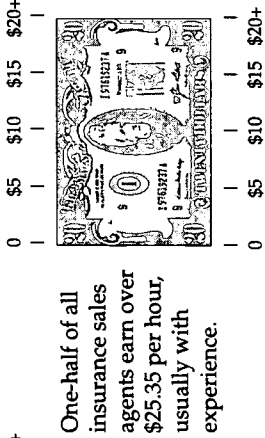


Nine out of ten insurance sales agents earn over \$15.43 per hour.

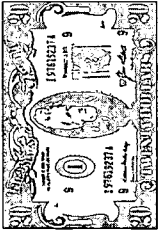


SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



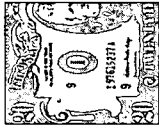
One-half of all insurance sales agents earn over \$25.35 per hour, usually with experience.



5,320 people are employed in this field in Minnesota, 2,260 as travel agents & 3,060 as reservation & ticket agents.



Nine out of ten travel agents & reservation & ticket agents earn over \$7.50/hr.



One-half of all travel agents and reservation & ticket agents earn over \$10.75 per hour, usually with experience.

Travel: \$10.50
Reserv.: \$12.50



9,600 people work as real estate agents in Minnesota.



Nationally agents start at very low pay, less than \$5.50/hour in 1992 (or pay may even be nothing if agents receive commission only upon completing a sale).



Nationally, the middle salary for real estate agents in 1992 was about \$12.75 per hour. No salary information is available for Minnesota alone.



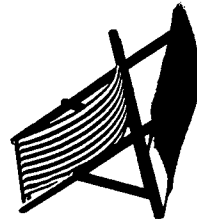
72,660 people work as retail store salespersons in Minnesota.



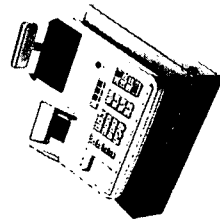
Nine out of ten earn over \$4.60. But those selling more expensive items (such as cars & furniture) may get high commissions.



Half earn over \$6.00/hr. But selling costly items such as appliances & electronics may produce high commissions.

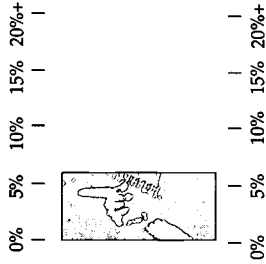


Sales
Careers



GROWTH RATE

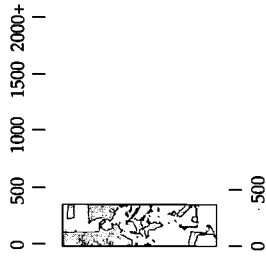
How fast this occupation is growing. (Percent increase from 1993 to 2001).



Insurance sales has a below-average growth rate. From 1993 to 2001, the number of insurance agents will increase 6%.

JOB OPENINGS

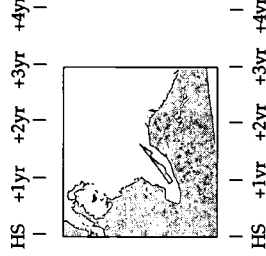
How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 380 new insurance sales workers every year, to fill new positions and to replace retirees.

TRAINING NEEDED

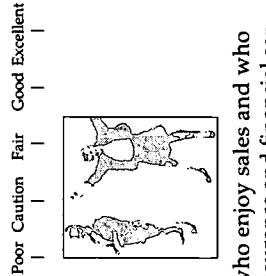
How much full-time training is generally needed to enter this occupation?



Many employers prefer 4-year college grads, but some will hire high school grads with sales ability or experience. Must pass state licensing exam.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Prospects should be fairly good, but the work is highly competitive. Three large insurance cos. said in Fall 95 that the job outlook is good for insurance agents and that "especially in sales, companies are constantly recruiting." Well-trained and ambitious people who enjoy sales and who develop expertise in a wide range of insurance and financial services will have the best chances. Many beginners abandon insurance sales when they can't establish a sufficiently large clientele.

TRAVEL & RESERVATION WORK

Travel & reservation work has an above-average growth rate. From 1993-2001, the number of agents will increase by 24%. Travel: 30%. Reserv.: 19%.



Minn. will need 260 new workers yearly in this field until 2001, to fill new positions & to replace retirees: 130 travel agents & 130 reservation agents.



Most people enter this field as clerks, secretaries, or receptionists & then promoted. Some tech colleges offer 9 mo training. Some cos. like college: geography, computers.

Depends on the economy & air fares. This field is growing very fast, but competition is strong for jobs. People who are trying to enter the *travel agent* field may have to accept clerical jobs in travel companies, with the hope of being promoted. Most applicants for *reservationist* jobs are likely to find much competition, because airline jobs attract many applicants due to the travel benefits & the glamour. But, although the outlook for new *full-time* reservationists is poor, it's fair to good for *part-time*.

REAL ESTATE SALES

Real estate sales is a field that has a below-average rate of growth. From 1993 to 2001, the number of real estate agents employed will increase by 7%.



Minnesota will need 240 new real estate salespersons yearly, to fill new positions and to replace retirees.



Little training is required, except 90 hrs of licensing classes, available part-time at certain colleges, community colleges, tech colleges, or private schools.

Prospects should be fairly good. However, the work itself is highly competitive. Year after year many capable people enter (and leave) this field, for various reasons: It has the feel of a *profession* and self-employment, yet doesn't usually require an extensive related background. It's relatively easy to enter, even part-time, without much risk, because of the odd hours (working when everyone else doesn't) & because starting pay is often "commission" (or "zero").

RETAIL STORE SALES

New job growth for retail salesworkers is average. From 1993 to 2001, their numbers will increase by 12%.



Minnesota will need 3,540 new retail salespersons per year till 2001, to fill new positions and to replace retirees.



H.S. grads preferred, then trained on the job. For better-paying jobs, need extensive knowledge of the product (cars, appliances, electronics).

Retail store sales is *the* occupation predicted to have the highest number of new jobs from 1993 to 2001. Chances are excellent for lower-paying jobs—hundreds of low-paying jobs are available. However, strong competition exists for commission sales jobs within stores—especially for "big ticket" items like furniture, cars, appliances, electronics—because of the higher earning potential. In general, there appears to be a fair oversupply of candidates for commission sales jobs.

CAREERS REQUIRING 4 YEARS OF TRAINING OR MORE

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

SPECIAL ED. TEACHER

Teach elementary and secondary subjects to educationally and physically handicapped students. May specialize in such areas as mental retardation, hearing, vision.

SECONDARY TEACHERS

Instruct pupils in public or private schools in one or more subjects, such as English, math, social studies, business, physical education, or vocational education. Usually specialize.

ELEMENTARY TEACHERS

Elementary, kindergarten, and pre-school teachers instruct pupils in public or private schools. They teach elementary, physical, mental, and developmental skills.

SOCIAL WORKER

Counsel and aid individuals and families requiring social service assistance. Help them to understand their problems and to deal with those problems.

LAWYERS Conduct criminal and civil lawsuits. Draw up legal documents. Advise clients as to legal rights. Practice other phases of the law. May represent client in court or before other government agencies.

CIVIL ENGINEER Plan, design, and oversee construction & maintenance of structures and facilities, such as roads, railroads, airports, bridges, dams, power plants, water and sewage systems, etc.

INDUSTRIAL ENGINEER

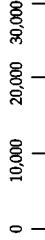
Plan and oversee the use of production facilities & of personnel in a department or other subdivision of an industrial establishment.

ARCHITECT

Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.

SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).



7,060 people work as special education teachers in Minnesota.



19,350 people are employed as secondary school teachers in Minnesota.



25,570 elementary teachers and 8,120 preschool & kindergarten teachers in Minn.



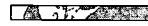
10,640 people work as social workers in Minnesota.



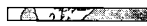
10,580 people work as lawyers in Minnesota.



2,300 people are employed as civil engineers in Minnesota.



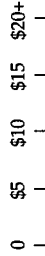
2,000 people are employed as industrial engineers in Minnesota.



1,800 people are employed as architects in Minnesota.

SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).



Nine out of ten special education teachers earn over \$15.80/hr.



Nine out of ten secondary teachers earn over \$15.00/hr.



9 of 10 elementary & kindgrn. teachers earn over \$13.60/hr. 9 of 10 preschool teachers. over \$7.40



Nine out of ten social workers earn more than \$11.50/hour.



Nine of 10 lawyers earn over \$15.40/hr. (excludes those self-employed).



Nine out of ten civil engineers earn over \$16.50 per hour.



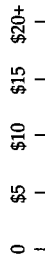
Nine out of ten industrial engineers earn over \$12.70/hr.



Nine out of ten architects earn over \$10.30/hr.

SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



One-half of all special education teachers earn over \$22.10/hr.,



One-half of all secondary teachers earn over \$22.40, usually with experience.



Half of elementary & kindgrn. teachers earn over \$21.30. Half preschool teachers. over \$13.75.



One-half of all social workers earn over \$16.00 per hr., usually with experience.



Half of all lawyers earn over \$26.30/hr., (excludes those self-employed).



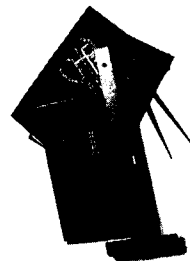
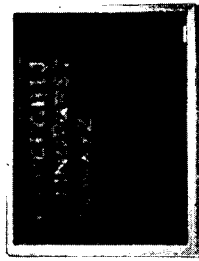
One-half of all civil engineers earn over \$22.60, usually with experience.



One-half of all industrial engineers earn over \$19.20, usually with experience.

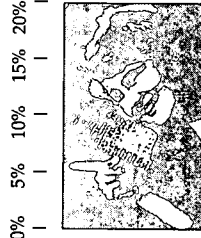


One-half of all architects earn over \$17.50, usually with experience.



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



Special education teaching has a very high growth rate. From 1993-2001, the number will increase by 35%.



Secondary teaching has an average growth rate. From 1993 to 2001, the no. of sec. teachers will increase by 15%.



Elementary has a below-average growth rate of 7%. Preschool & kind. teaching has very fast growth of 35%.



Social work has an above-average growth rate. The no. of social workers employed will increase by 24%.



Law has an above-average growth rate. From 1993 to 2001, the number of law positions will increase by 19%.



Civil engineering has an above-average growth rate. From 1993-2001, the number will increase by 18%.



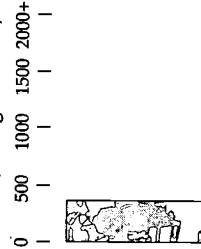
Industrial engineering has a below-average growth rate. From 1993 to 2001, the number will increase by 6%.



Architecture has an average growth rate. From 1993 to 2001, the no. of architects will increase by 15%.

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 370 new special education teachers yearly till 2001, to fill new positions and to replace retirees.



Minnesota will need 770 new secondary teachers yearly till 2001, to fill new positions and to replace retirees.



Minn. needs 1,070 new elementary, kindergarten, & preschool teachers yearly for new positions & retirees.



Minnesota will need 410 new social workers yearly till 2001, to fill new positions and to replace retirees.



Minnesota will need 400 new lawyers each year till 2001, to fill new positions and to replace retirees.



Minnesota will need 110 new civil engineers yearly to 2001, to take new positions and to replace retirees.



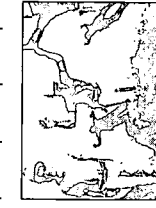
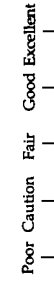
Minnesota will need 70 new industrial engineers yearly to 2001, to take new positions and to replace retirees.



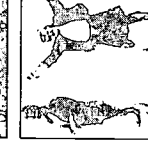
Minnesota will need 60 new architects yearly to 2001, to take new positions and to replace retirees.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Most special ed fields have a high demand. In the Midwest, nine of ten teaching fields most in demand are special ed specialties: speech pathology (highest demand), behavioral disorders (2nd), multiple handicaps, audiology, hearing impaired, physically impaired, visually impaired, learning disability, mentally handicapped. Special ed is an occupation growing very fast from 1993 to 2001 in Minnesota.



A college placement officer says "the outlook for secondary ed is not much better than for elementary ed." Of all 1993-94 grads, 56% were placed. Some teaching areas have a fairly high demand: bilingual ed, physics, English as a 2nd language, chemistry, Spanish, & math. Many other fields have some demand; others are balanced. But health and social sciences have a surplus of job applicants. Considerable surplus in physical educ.



More job-seekers than jobs. One college placement officer says "the outlook for elementary teachers is poor. In 1993-94 only 45% of graduates were placed." The outlook is better for those who relocate to states with higher demand & for those in early childhood education or preschool (often lower pay, however). A second college notes that job prospects improved somewhat, but, still, fewer than half found teaching jobs.



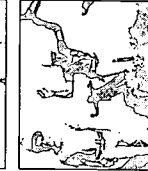
Somewhat confusing. Prospects appear to be fair. However, there are some indications of a surplus of social workers statewide. The number of social work jobs will grow fast due to rising needs of the elderly, mentally ill, disabled, & persons in crisis. But some of these needs may met through more use of paraprofessional human services workers. Also if Congress reduces welfare funds, it may cause an upheaval in this field.



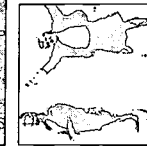
Although the number of jobs for lawyers is expected to increase faster than average, keen competition for job openings is expected. While jobs are available, there are a lot more candidates than jobs. Many, many have pursued law degrees in the past 10 to 20 years. One law school expects 300-400 new jobs next year, but 800 new graduates from three schools in the Twin Cities. The school is "cautiously optimistic about present job availability."



Good prospects for employment. The U of M sees significant growth for civil engineers now and in the future, both in environmental engineering (dealing with soil, ground water concerns, etc.) and in refurbishing the infrastructure of the U.S. (roads, bridges, airports), although this depends upon govt. funding. The U of M suggests acquiring computer skills & making an early choice of environmental, transportation, or structural.



Long term: opportunities for employment should be good in Minnesota. Although the job market for industrial engineers has been tight in the recent past, it is experiencing an upswing, along with other engineering fields. Industrial engineers can still expect increasing opportunities & wage offers above those for other college grad fields.



Despite strong competition for jobs in this popular field (layoffs have occurred at big arch. firms in the last 3 or 4 years), prospects are still good for new grads. As of Summer 95 most firms were quite busy. Competition is keen during recessions. Skill in computer-aided design may help to land a job. A big obstacle to entering this field is to be accepted at a school (some candidates apply year after year without success). The only professional degree possible in Minnesota is the 6-yr. U of M master's degree. *Caution:* some schools offer nonprofessional degrees—these can't be used to become an architect.

JOBS REQUIRING LITTLE OR NO TRAINING

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

CASHIERS

Receive money and make change in stores, restaurants, and similar establishments. Usually involves the use of cash registers, adding machines, & change makers.

STOCK CLERK IN RETAIL STORES Receive, store, and put merchandise out onto sales floor. Stock shelves, racks, cases, bins, & tables with goods and arrange display of items. Might also count stock or check & mark merchandise.

STOCK CLERK IN STOCKROOM OR WAREHOUSE Warehouse & stockroom stock clerks receive & store materials or equipment, or they issue those items from the warehouse or stockroom. Keep records and compile stock reports.

SHIPPING & RECEIVING CLERK

Traffic clerks and shipping/receiving clerks verify & keep records on incoming & outgoing shipments & prepare items for shipment. Package, address, stamp, & ship material.

CHILD CARE WORKERS Care for children at school, businesses, & institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. May need college training. (Does not include Teacher Aides)

JANITORS & CLEANERS Keep buildings clean & orderly. Perform heavy cleaning duties: operate cleaning machines, mop floors, wash walls & glass, remove trash, clean sidewalks. May perform routine maintenance (such as painting).

MAIDS & HOUSEKEEPING CLEANERS

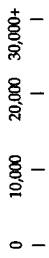
Clean places such as hotels, restaurants, and hospitals, offices, & stores. Or clean private homes. Dust & dry mop. In hospitals or hotels, might make beds, clean rooms & halls.

WAITRESSES & WAITERS

Serve food and/or beverages to customers at tables. Usually take order from customer and make out check. Might set table & take payment from customer.

SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).



50,620 people work as cashiers in Minnesota.



An estimated 22,500 people work as stock clerks on the sales floors of retail stores in Minnesota.



An estimated 13,000 people work as stock clerks in warehouses or stockrooms.



15,970 people work as shipping & receiving clerks in Minnesota.



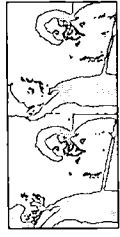
24,330 people work as child care workers in Minnesota.



48,500 people work as janitors & cleaners in Minnesota (Estimated).



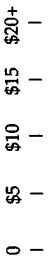
19,000 people work as maids & housekeeping cleaners in Minn. (Estimated).



Over 43,000 people work as waitresses and waiters in Minnesota.

SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).



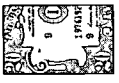
Nine out of ten cashiers earn over \$4.50/hr.



Nine out of ten stock clerks in retail stores earn over \$4.50/hr.



Nine out of ten stock clerks in warehouses or stockrooms earn over \$5.30/hr.



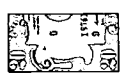
Nine out of ten shipping & receiving clerks earn over \$6.00/hr.



Nine out of ten child care workers earn over \$4.75/hr.



Nine out of ten janitors & cleaners earn over \$5.40/hr. Pay is higher in hospitals & government.



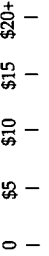
Nine out of 10 maids and housekeeping cleaners earn over \$5.15/hr. Pay is higher in hospitals.



Most are paid about \$4.25/hr., but their pay plus tips may equal \$5 to \$8/hr., for some even \$10-20.

SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



One-half of all cashiers earn over \$5.50/hr., usually with experience.



One-half of all stock clerks in retail stores earn over \$5.95/hr., usually with experience.



One-half of all warehouse stock clerks earn over \$8.80/hr., usually with experience.



One-half of all shipping & receiving clerks earn over \$9.00/hr., usually with experience.



One-half of all child care workers earn over \$6.65/hour, usually with experience.



Half of all janitors earn over \$7.75/hr., usually with experience. Pay is higher in hospitals & gov't.



One-half of all maids earn over \$6.50/hr., usually with experience. Pay is higher in hospitals.



Most are paid about \$4.25/hr., but their pay plus tips may equal \$5 to \$8/hr., for some even \$10-20.



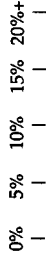
Service
Careers



Survival
Jobs

GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



New job growth for cashiers is average. From 1993-2001, their numbers will increase by 12%.



Job growth for stock clerks in stores is below-average. By 2001, their numbers will increase by 3%.



Job growth for warehouse stock clerks is below-average. Their numbers will increase by only 3%.



Job growth for shipping and receiving clerks is average. By 2001, their numbers will increase by 13%.



Job growth for childcare workers is average. From 1993-2001, their numbers will rise by 13%.



Janitor/cleaner has a below-average growth rate. The number of jobs will increase by 7%.



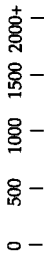
Growth for maids & housekeeping cleaners is below-average. Their numbers will rise 7%.



The waiting occupation is growing at an above-average rate, increasing 18% from 1993 to 2001.

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



Minnesota will need 2,930 new cashiers per year till 2001.



Minnesota will need an estimated 600 new store stock clerks per year till 2001.



Minnesota needs about 300 new stock clerks in warehouses & stockrooms per year till 2001.



Minnesota needs 460 new shipping & receiving clerks per year till 2001.



Minnesota needs 550 new childcare workers per year till 2001.



Minnesota needs 1,300 new janitors & cleaners per year till 2001 (Estimated).



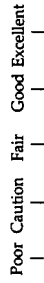
Minnesota needs 550 new maids & housekeeping cleaners per year till 2001 (Estimated).



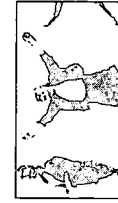
Minnesota needs 3,020 new waiters & waitresses per year till 2001.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



Chances are very good, but much part-time work. Shortages of cashiers in lower-paying jobs. A union says that cashiers often work "undesirable hours" in grocery stores and that career advancement is very limited.



Chances for jobs are very good for stock clerks in retail stores. But a retail store union says that stock clerks often work "undesirable hours" and that career advancement is very limited.



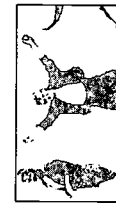
Chances should be fair for stock clerks in warehouses & stockrooms. Businesses will more often use computers for inventory control & will install automated equipment; this will hold down demand for stock clerks.



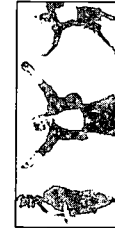
Chances should be only fair. Companies will use computers to record shipping & receiving records. Good skills to have: Ability to keep correct records; Forklift training; Some computer knowledge; Good math skills.



Job openings will be plentiful, because many pre-school workers leave this occupation each year—to find other jobs that usually pay more or to take care of families. Qualified people will have little trouble finding & keeping jobs.



Many job openings because of high turnover. Best bet: building maintenance companies. These occupations are predicted to have a large number of new jobs from 1993 to 2001. Part-time & temporary jobs are plentiful.



Many job openings for those who clean hotels, restaurants, hospitals, offices, & stores because many cleaners quit to seek other work. Best bets: large hospitals, hotels/motels in large cities & tourist areas, and home-cleaning cos.



Many, many openings. High turnover. For those who want it, there's lots of part-time work, lots of night work, lots of weekend work. Those seeking jobs at restaurants where tips are high will find more competition.

SURVIVAL JOBS

The occupations on pages 42 to 45 provide many jobs for teenagers, for college students, for persons who are not the main wage-earners in their families, for people who want lower-pressure second jobs in addition to full-time jobs, and for those looking for temporary employment. Salaries for these occupations generally are low and don't rise much even if a person stays on the job for several years. The tasks are usually easy to learn and are repeated over and over during the workday. Also the duties often don't require much decision-making or special skills or special knowledge.



In spite of this, many adults do make their livings at the better-paying positions in each of these occupations, as office clerks, high-commission retail store sales, warehouse workers, janitors, waitresses and waiters, factory assemblers, and laborers. Often the better-paying jobs are with companies whose workers are covered by unions.

On the one hand, workers can't advance too far in many of the jobs listed here. On the other hand, some people stick with them and eventually become specialists or supervisors of others, and therefore earn higher pay.



MORE JOBS REQUIRING LITTLE OR NO TRAINING

JOB TITLE & DUTIES

What kind of work do the people in this occupation do on the job.

BARTENDERS

Mix & serve alcoholic and non-alcoholic beverages to customers of a bar. Follow standard recipes for mixing drinks.

FOOD COUNTER WORKERS

Work at a food counter in a restaurant, store, or delicatessen, performing such duties as taking food & beverage orders, preparing cold foods, cleaning counter areas.

FOOD PREPARATION WORKERS Perform food prep duties, such as preparing cold foods and maintaining & cleaning kitchen work areas & equipment. Perform simple tasks like cleaning shellfish or slicing meat. May brew coffee.

FAST FOOD/SHORT ORDER COOK Either: Cook in a fast food restaurant with a limited menu, usually cooking just 1 or 2 basic items such as hamburgers or pizza, or, Cook food that requires only a short preparation time.

ASSEMBLERS & FABRICATORS (Not including electrical, electronic, machine assembly) Assemble or fit together parts to form complete units or subassemblies, at a bench, conveyor line, or on a floor. May use hand tools & power tools.

HAND PACKERS & PACKAGERS

Pack or package by hand a wide variety of products and materials. (Includes only workers whose jobs require only a very small amount of training on the job.)

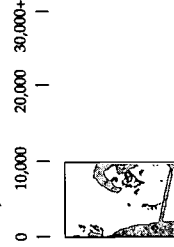
GUARDS & WATCHGUARDS Stand guard at entrance gate/door, or walk or drive about the premises of a business or industrial plant to prevent theft, violence, or infractions of rules. Guard property against fire, vandalism, illegal entry.

GARDENERS & GROUNDSKEEPERS

Maintain grounds of public or private property using hand or power tools. Perform such tasks as mowing, trimming, planting, watering, fertilizing, digging, raking, & sweeping.

SIZE OF OCCUPATION

How many paying jobs exist in this occupation in Minnesota (1993).



Over 10,000 people work as bartenders in Minnesota.



36,600 people work as food counter workers in Minnesota.



28,000 people work as food prep workers & kitchen helpers in Minnesota.



Over 14,000 people work as fast food cooks & short order cooks in Minnesota.



27,000 work as fabricators & assemblers (not including electrical, electronics or machine assembly).



Over 14,000 hand packers & hand packagers work in Minnesota.



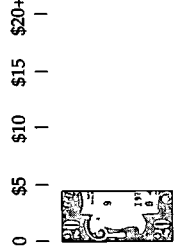
8,000 people work as guards & watchguards in Minnesota.



Over 8,000 people work as gardeners & groundskeepers in Minnesota.

SALARIES - LOW RANGE

Nine out of ten workers in this occupation earn at least this amount per hour (1994).



Nine out of ten bartenders earn over \$4.55/hour plus tips.



Nine out of ten food counter workers earn over \$4.25/hr.



Nine out of ten food prep workers earn over \$5.00/hr.



Nine out of ten fast food cooks & short order cooks earn over \$4.45/hr.



Nine out of ten of these assemblers & fabricators earn over \$6.00/hr.



Nine out of ten hand packers earn over \$5.50/hr.



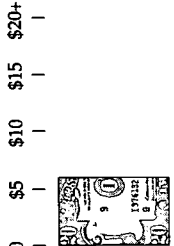
Nine out of ten guards earn over \$5.45/hr.



Nine out of ten groundskeepers earn over \$5.20/hr.

SALARIES - MID RANGE

Half of the workers in this occupation earn at least this amount per hour (1994).



One-half of all bartenders earn over \$6/hour, plus tips.



One-half of all counter workers earn over \$5.80/hour.



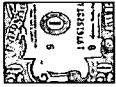
One-half of all food prep workers earn over \$6.60/hr, usually with experience.



One-half of all fast food cooks & short order cooks earn over \$5.25/hr.



One-half of these assemblers & fabricators earn over \$8.75/hr, usually with experience.



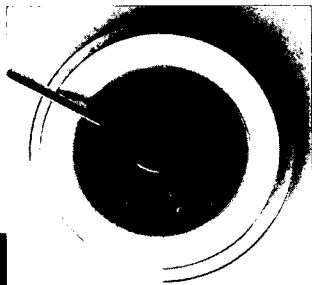
One-half of all hand packers earn over \$7.10/hr, usually with experience.



One-half of all guards earn over \$7.25/hr, usually with experience.

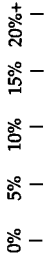


One-half of all groundskeepers earn over \$9.00/hr, usually with experience.



GROWTH RATE

How fast this occupation is growing. (Percent increase from 1993 to 2001).



Bartending has a *decreasing* growth rate. From 1993 to 2001, their numbers will *decrease* 5%.



Job growth for food counter workers is average. By 2001, their numbers will increase by 9%.



New job growth for food prep workers is above average. Their numbers will increase by 19%.



Growth for fast food & short order cooks is above-average. Their numbers will increase by 18%.



Assembler is a field that has a below-average growth rate from 1993-2001. The increase will be 3%.



Job growth is average for hand packers. By 2001, their numbers will increase 12%.



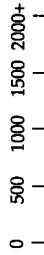
Guard work is growing at an above-average rate, increasing by 24%.



Job growth for groundskeepers is average. By 2001, their numbers will increase 13%.

JOB OPENINGS

How many job openings per year will be available for new workers (average till 2001)



Minnesota still needs 280 new bartenders per year till 2001 to replace workers who retire.



Minnesota needs 2,180 new food counter workers per year till 2001.



Minnesota needs 1,580 new food prep workers per year till 2001.



Minnesota needs 720 new fast food & short order cooks per year till 2001.



Minnesota will still need 530 new assemblers yearly, mostly to replace those who quit.



520 new hand packers are needed yearly till 2001 to replace retirees.



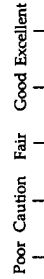
Minnesota needs 390 new guards & watchguards per year till 2001.



Minnesota needs 220 new gardeners & groundskeepers per year till 2001.

AVAILABILITY OF JOBS

What is the job market like for this occupation? How easy is it to find jobs?



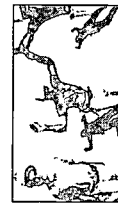
Many job openings. High turnover because many leave this field to find other jobs. For those who want a second income, there's plenty of part-time work, plenty of night work, plenty of weekend work.



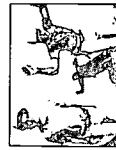
As in the past, a very large number of food counter workers, fast food workers, and food preparation workers will leave their jobs to seek other work, to go to school, or to take care of family responsibilities. Turnover is much higher than average for employees in these fields, partly due to the relatively low pay & partly because many workers don't see these jobs as long-term. Because the workers who quit will need to be replaced, job openings will be plentiful.



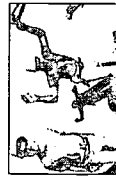
Many job openings. Lots of jobs because many workers quit cooking jobs to seek other work. For those persons who want a second income, there's plenty of part-time work, plenty of night work, plenty of weekend work.



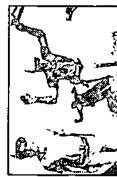
Not many *new* jobs, due to automation and work transferred to foreign countries. But because many assemblers quit to seek other work, jobs will be open.



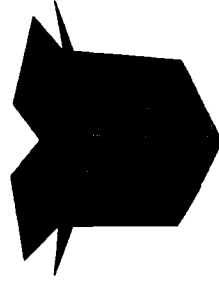
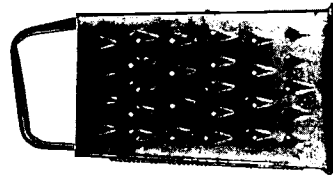
High turnover means a large number of openings. Many workers quit these jobs to seek other work.



Lots of jobs with security agencies, who assign guards to different locations, on contract. But, due to better pay & benefits, there's more competition to get hired directly by the actual business or factory whose property is to be guarded.



An increase in the demand for gardening & landscaping workers will create many job openings. Also many workers quit these jobs to seek other work. And a *floriculture garden* training program reports good job prospects.



Careers

Jobs



SHRINKING OCCUPATIONS

Office
Careers

Art &
Writing

Shrinking
Fields

Farmers



-1000

Farm Workers



Typists &
Word Processors



Computer Operators
(except Peripheral
Equipment)



Telephone
Equipment Installers
& Repairers



Butchers &
Meatcutters



Bartenders



-2000



-3000



-4000



Note: The occupations on this page are all getting smaller. Fewer workers will be needed in these fields. However, because some workers retire or stop working each year, many of these occupations will still have openings for new workers. For example, from 1993 to 2001 the bank teller occupation will lose 280 jobs, but because 3,010 tellers will leave the labor market for retirement, child birth, or school, there will still be room for 2,730 new tellers.

1993
Number of
MN Employees

Change in the Number
Of Employees From
1993 to 2001

FARM-RELATED OCCUPATIONS

Farmers
Farm workers

43,030
13,440

OFFICE & CLERICAL OCCUPATIONS

Typists and word processors*
**Although typing is shrinking, the secretary occupation is growing (See p. 16)*
Computer operators, except peripheral
Peripheral EDP equipment operators
Switchboard operators
Billing & posting machine operators
Bank tellers
Data entry keyers

13,260
5,070
550
4,370
2,160
8,260
740

Minus 1,270
Minus 1100
Minus 190
Minus 470
Minus 430
Minus 280
Minus 120

PRINTING OCCUPATIONS (Mostly replaced by computerized jobs)
Job printers
Paste-up workers
Typesetting machine operator/tender
Letterpress setter/operator

380
730
740
520

Minus 70
Minus 70
Minus 40
Minus 30

OTHER MANUFACTURING OCCUPATIONS

Packaging & filling machine operator
Crushing & mixing machine operator
Coil winders, tapers, finishers
Woodworking & saw machine operator

6,080
2,990
850
1,900

Minus 500
Minus 100
Minus 90
Minus 80

RAILROAD OCCUPATIONS

Locomotive engineers
Other rail transportation workers
(conductors, yard workers, brake, signal, switch)

480
2,000

Minus 20
Minus 30

OTHERS

Bartenders
Child care workers, private house
Cleaners & servants, private house.
Mobile heavy equipment mechanics

10,220
3,280
3,080
1,720

Minus 550
Minus 550
Minus 460
Minus 40

Sad but true, certain popular and glamorous occupations do not have enough job openings to match the number of people who train to enter those fields. Some obvious examples are *TV and movie stars*, *professional athletes*, *rock stars*, and *fashion models*. The chance of making a regular living in the those fields is very slim. In recent years, someone figured out that each high school athlete had only a 10,000 to 1

chance of becoming a professional athlete.

The following list includes some less glamorous occupations which also don't appear to have enough job openings to match the number of people who prepare for them and try to enter them. Although some of these occupations have predictions for over 100 yearly job openings, the number of persons qualified and interested in pursuing these openings exceeds

by a fair amount the number of openings. (Next year 800 new law school graduates will compete for 400 new lawyer job openings). Our point in listing these occupations is to caution the reader to check these fields carefully before spending a lot of time and money preparing for them, unless you are a top student, a very aggressive job seeker, or have connections that will help you to gain employment.

	1993 Number of MN Employees	Yearly Job Openings 1993-2001		1993 Number of MN Employees	Yearly Job Openings 1993-2001
PROFESSIONAL SPECIALISTS					
Lawyers	10,580	400	WRITERS, ARTISTS, & MEDIA		
Employment interviewers	1,240	40	Writer, editor, technical writer	5,350	180
Personnel, training, & labor relations specialists	5,310	230	Reporters and correspondents	1,110	40
Insurance adjusters, investigators	3,250	130	Public relations specialists	1,910	70
Architects	1,750	60	Designers** (see p. 24 for types)	6,210	180
Landscape architects	210	10	Commercial artists & related** (see p. 24)	4,200	160
Economists, market analysts	660	40	Musicians**	4,040	150
Urban and regional planners	830	30	Dancers and choreographers**	130	0
Psychologists	3,320	120	Entertainers: actor/director/producer**	1,580	70
Recreation workers	4,660	170	Radio & TV announcer/newscaster	1,180	50
Foresters	730	30	Photographers**	1,840	60
Librarians	2,610	70	Camera operators, TV & movie	250	0
Paralegals	1,600	100	Broadcast technicians	430	10
Curators, archivists, museum tech	170	10	MEDICAL		
MECHANICAL & CONSTRUCTION					
Motorcycle repairs	170	10	Veterinarians, vet. inspectors	1,290	60
Small engine specialists	920	40	Recreation therapists	910	20
Jewelers and silversmiths	460	10	Emergency medical technicians	1,980	80
Operating engineers (Heavy equipment)	2,910	60	Dietitians and nutritionists	860	30
SCIENTIFIC					
Chemists	1,810	80	Electrocardiograph tech (EKG)	210	0
Biological scientists	660	30	SCIENTIFIC		
TRAVEL					
Travel agents	2,260	130	Chemists	1,810	80
Aircraft pilots, flight engineers	numbers not available	numbers not available	Biological scientists	660	30
Flight attendants	numbers not available	numbers not available	PROTECTIVE SERVICE		
** The Arts: People who have an interest in fine arts or performing arts typically will usually have to gain satisfaction from creating and performing as a hobby or avocation, in community theater, amateur bands & orchestras, painting and drawing groups, amateur dance companies, community cable TV, etc.					



GO!

****But with caution: some of these fields have too many applicants.****

Medical
Careers

Technical
Careers

Service
Careers

Growing
Fields
Computer
Careers

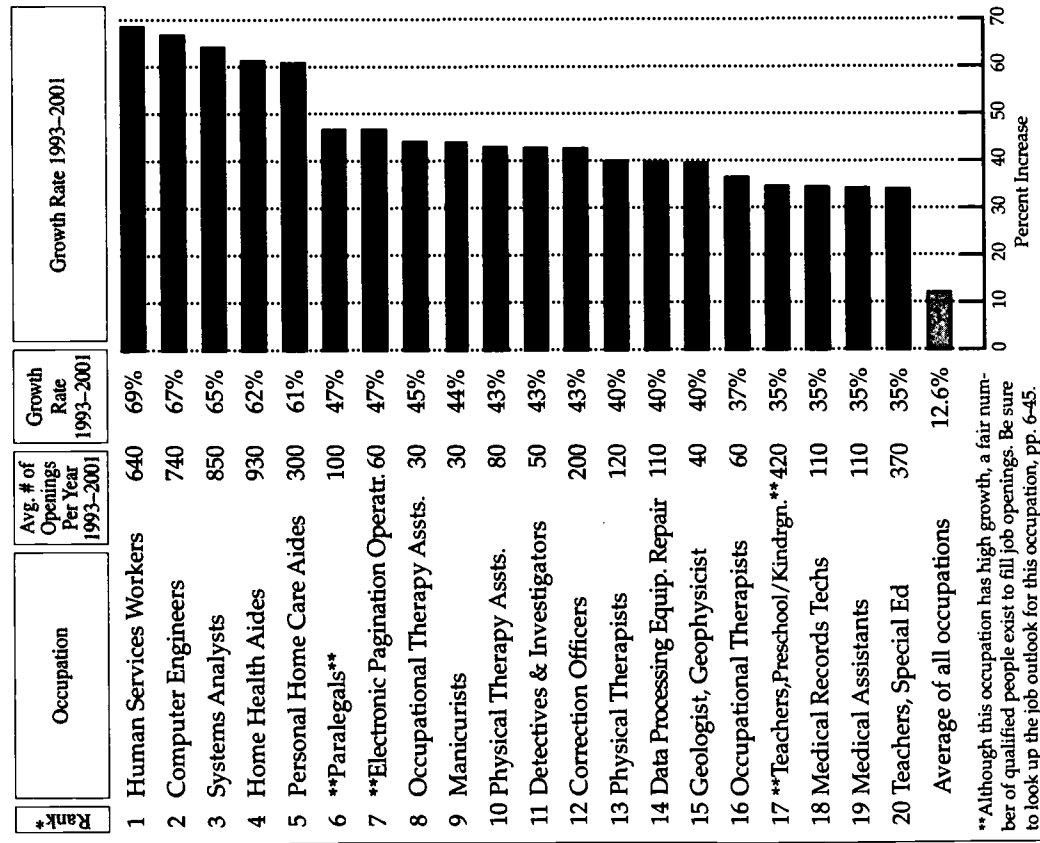
GROWING OCCUPATIONS

FASTEST-GROWING OCCUPATIONS

MINNESOTA

1993 TO 2001

Out of about 500 Occupations

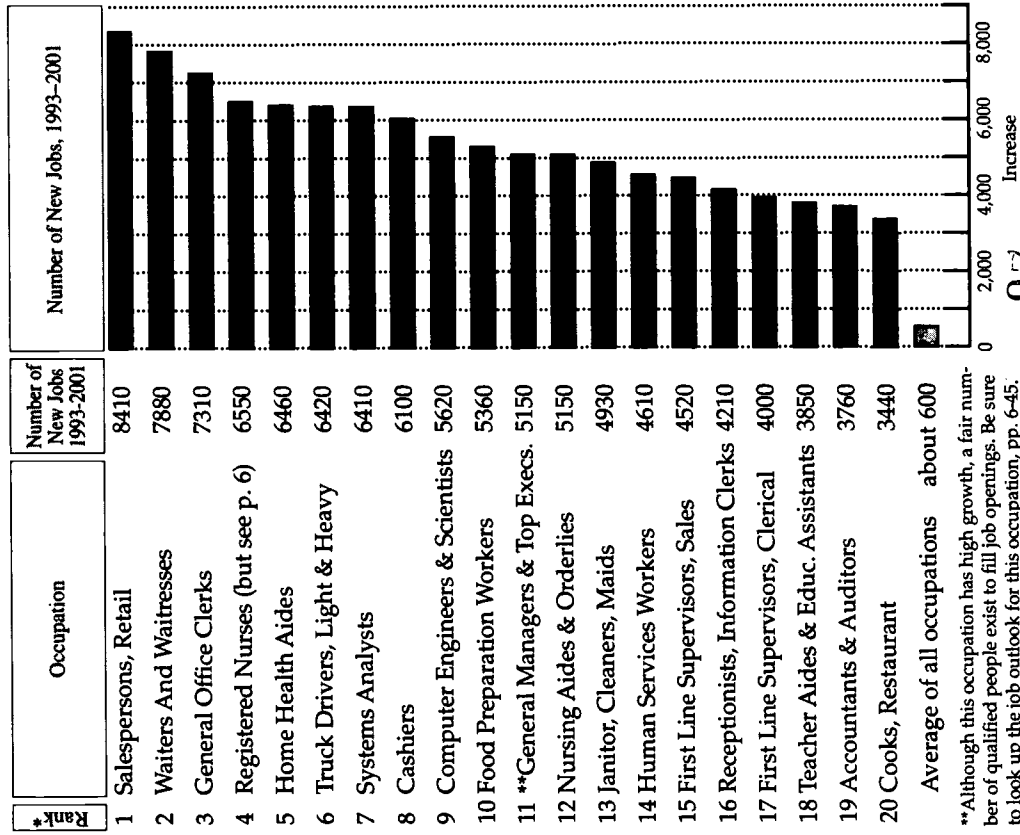


OCCUPATIONS WITH THE GREATEST NUMBER OF PREDICTED NEW JOBS

MINNESOTA

1993 TO 2001

Out of about 500 Occupations



FAST-GROWING MINNESOTA OCCUPATIONS WHICH ARE PREDICTED TO HAVE A LARGE NUMBER OF JOB OPENINGS*

MINNESOTA 1993 - 2001

Out of about 500 Occupations

Rank*	Occupation	Growth Rate 1993-2001	Number of New Jobs, 1993-2001
1	Home Health Aides	62%	6,460
2	Computer Systems Analysts	65%	6,410
3	Computer Engineers & Scientists	67%	5,620
4	Human Services Workers	69%	4,610
5	**Preschool and Kindergarten Teachers**	35%	2,850
5	Personal & Home Care Aides	61%	2,130
7	Special Education Teachers	35%	2,440
8	Correction Officers & Jailers	43%	1,350
9	Restaurant Cooks	24%	3,440
9	Legal Secretaries	30%	1,540
11	Amusement & Recreation Attendants	24%	2,840
12	**Marketing, Advertising & Pub. Relations Mgrs.**	24%	2,610
13	**Social Workers, including Medical & Psychiatric	24%	2,540
14	Guards & Watch Guards	24%	1,920
15	**Physicians & Surgeons**	23%	2,540
16	**Paralegal Personnel**	47%	750
17	Data Processing Equipment Repairers	40%	770
18	Bread & Pastry Bakers	25%	1,020
19	**Personnel/Training/Labor Relations Specialists**	24%	1,270
20	**Radiologic Technologists & Technicians**	31%	810
20	Insurance Adjusters, Examiners, Investigators	28%	910
22	Laundry/Drycleaning Machine Operators	25%	930
22	Physical Therapists	40%	730
24	Food Preparation Workers	19%	5,360
25	Waiters & Waitresses	18%	7,880
26	Teacher Aides, Clerical & Paraprofessional	20%	3,850
27	Medical Assistants	35%	680
27	Bill & Account Collectors	24%	930
29	Medical Records Technicians	35%	680
30	Counter & Rental Clerks	21%	1,790

**Although this occupation has high growth, a fair number of qualified people exist to fill job openings. Be sure to look up the job outlook for this occupation on pages 6-45.

*These occupations are double-ranked by *percentage growth* and the *number of new openings*, 1993 to 2001. In our double-ranking procedure, we first ranked all occupations in two lists: by percentage growth and by number of new openings. We took each occupation's rank in the percentage growth list and added that to its rank in the new openings list. We then did a new ranking based on the sums. So *percentage growth* and the *number of new openings* received equal weight.

Minn. Dept. of Economic Security, Research Office, Aug-95

LARGE MINNESOTA OCCUPATIONS WITH HIGH GROWTH RATES AND FAIR SALARIES

OCCUPATIONS WITH: 1993 EMPLOYMENT AT LEAST 3,100;
EXPECTED GROWTH FROM 1993 - 2001 OF AT LEAST 17%;
AND 1994 MEDIAN WAGES ABOVE \$10.00 PER HOUR.

Rank*	Occupation	Estimated No. of Workers 1993	Growth Rate 1993-2001	1994 Median Wage
1	Human Services Workers	6680	69%	\$10.62
2	Computer Engineers & Computer Scientists	8350	67%	\$23.54
3	Computer Systems Analysts	9920	65%	\$22.92
4	Correction Officers & Jailers	3130	43%	\$14.13
5	**Preschool (\$14) & Kindergarten Teachers (\$22)	8120	35%	<<See
6	Special Education Teachers	7060	35%	\$22.12
7	Legal Secretaries	5180	30%	\$14.14
8	Insurance Adjusters, Examiners, Investigators	3250	28%	\$14.94
9	**Psychologists**	3320	24%	\$20.60
10	**Personnel/Training/Labor Relation Specialists**	5310	24%	\$16.23
11	**Marketing, Advertising & Pub. Rel. Mgrs.**	10880	24%	\$22.64
12	**Social Workers, including Medical & Psychiatric**	10640	24%	\$15.80
13	Property & Real Estate Managers	3460	23%	\$19.47
14	**Physicians & Surgeons**	10990	23%	\$55.58
15	Mechanical Engineers	4040	21%	\$20.44
16	Natural Sciences & Math Technicians	4570	21%	\$10.91
17	Loan Officers & Counselors	5830	20%	\$16.75
18	**Lawyers**	10580	19%	\$26.27
19	Dental Assistants	3920	19%	\$12.00
20	Food Service & Lodging Managers	10200	19%	\$10.34
21	Highway Maintenance Workers	4310	18%	\$13.80
22	Accountants & Auditors (likely to need 4 yrs. college)	20670	18%	\$15.56
23	Vocational Education Teachers & Instructors	3760	18%	\$22.81
24	Construction Managers	3480	18%	\$23.08
25	Securities & Financial Services Sales Agents	5240	18%	\$13.85
26	**Management Analysts**	3140	18%	\$17.89
27	Registered Nurses (but see p. 6)	37110	18%	\$16.93
28	**Writers & Editors, including Tech Writers**	5350	17%	\$16.06
29	**College & University Faculty**	12810	17%	\$23.94
30	Engineering, Math, & Sciences Managers	6980	17%	\$29.53
31	Automotive Body & Related Repairers	3980	17%	\$12.90
32	Licensed Practical Nurses	17430	17%	\$11.05
33	Welders & Cutters	6010	17%	\$11.27

The occupations in this table are ranked in order of their growth rates, 1993 to 2001.

Note: Does not account for supply of qualified workers or competition for openings.

**Although this occupation has high growth, a fair number of qualified people exist to fill job openings. Be sure to look up the job outlook for this occupation on pages 6-45.

Minn. Dept. of Economic Security, Research Office, Aug-95

MORE ABOUT MEDICAL CAREERS



health care industry's emphasis is on keeping patients out of hospitals or limiting the time they stay. And, presumably, the shorter the hospital stays are, the fewer RNs are needed. Thus, in 1994 & into 1995, fewer and fewer RN jobs were available.

But the situation changed half way through 1995. Andy Calkins, spokesperson for the Minnesota Nurses Association, reiterated in February 1996 that job prospects since mid-1995 have been better than the previous period:

"Hospitals are going at full capacity right now. Virtually all are hiring... While we do see a decreasing of in-patient care [patients assigned beds in hospitals], the status of RN jobs is holding steady. There are fewer patients in hospitals, but they have higher acuity [more severe illness]. There's definitely a lot more out-patient treatment [patients treated at hospitals without staying overnight]. Whenever possible, hospitals are moving into out-patient. But the need for RNs in hospitals is [pretty good]. Demand is back to where it was."

And, because of the aging population, experts predict in the next 10 years the number of nurses needed will increase quite fast.

However, says Mr. Calkins, "The whole health care environment is somewhat volatile. There's still the pressure for cost containment. Hospitals are still looking at restructuring how care is delivered. But they seem to have backed off the really dramatic change that they intended—using fewer RNs & more nurse assistants... It didn't really work out as well as they planned."

A sizeable majority of RNs still work in hospitals, Mr. Calkins says,

but the settings in which they practice are slowly starting to change—more will be involved in outpatient care and home care, so the percentage in hospitals will diminish somewhat, to perhaps 50%. Nursing opportunities will grow in the following:

- preventive care; home visitation (for example, to high-risk teenage mothers);

- home health care;

- same day surgery;

- call-in services for health care plans to decide whether callers need to see a doctor or not;

- case management, that is, determining whether hospital or nursing home patients can be diverted to less costly treatments.

- nursing home care: a nursing home association says that there's a need for more & more RNs in nursing homes, due to influx of patients "who have been stabilized in a hospital & are transferred to a nursing home where they might receive further treatment such as

- drug therapy, occupational therapy, and physical therapy" which they may have received in hospitals in the past, at a higher cost. So nursing homes are getting them "sticker and quicker." And that necessitates employing more RNs in nursing homes "because they can perform more technical functions than other health workers."

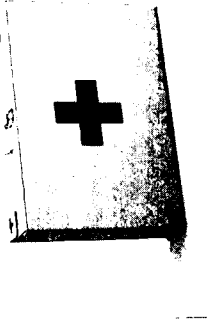
So, if you are considering a health career, and if you have good basic abilities, don't be scared off by the continuing turmoil. As one authority said in *CityBusiness* (Sept 1994):

"There will continue to be a place and role for acute care hospitals and nurses." We will definitely need a large, continuous supply of nurses and other medical workers.

occupations is predicted at 14%. However, these two occupations are predicted to grow at these outstanding rates which are 8 and 9 times higher than the average rate. This high growth is due to several factors, such as:

- a substantial increase in the elderly population,
- greater efforts to provide home care for people who have long-term illness instead of assigning them to nursing homes, and
- development of in-home medical technologies.

Job opportunities are excellent. It's possible to enter this field with a short amount of training, similar to the training of nurse assistants which is a matter of weeks. Salaries however, are relatively low in comparison to other occupations—about \$6.00 per hour to start.



A home care association says that home care aides will need the following 12 specific skills in order to work for employers who are certified to receive medicare payments. These skills may be gained through relatively short training at technical colleges, or through experience.

- 1) Communication skills
- 2) Observing patient's condition
- 3) Reading temperature, pulse, etc.
- 4) Basic infection control
- 5) Basic body functioning
- 6) Cleanliness & safety
- 7) Emergency procedure
- 8) Patient rights

In regard to training to be an RN, Mr. Calkins says that "The trend toward 4-year degrees is slowly coming; we see it down the road. That day is coming. But it's not here yet. Two-thirds of new RNs are from 2-yr. programs, because it's a much quicker way to get into the RN field, much less expense."

◆ LICENSED PRACTICAL NURSES

Nationally, the number of LPNs is will grow faster-than-average in response to general demand & the long-term care needs of a rapidly growing elderly population. Job prospects should remain excellent unless the number of people completing LPN training increases substantially.

An LPN union said in July 1995 that "Nursing homes especially are having trouble—they cannot find enough LPNs. As a result they're using a lot of pool help [temporary agencies], which is not satisfactory. We do not think the shortage is as great outside metro area."

An LPN association also says that "future prospects are good." In addition, seven technical and community colleges list LPN as a field *most likely* to lead to jobs which pay relatively well.

■ HOME HEALTH CARE

◆ HOME HEALTH AIDES

Topping the list of fastest growing occupations nationally from 1994 to 2005 are two lower-paying occupations in the burgeoning home health field:

- Personal & home care aides (119% increase 1994-2005)
- Home health aide (102% increase 1994-2005)

The average growth rate for a **JO**

◆ REGISTERED NURSES—RNs

Nursing, one of Minnesota's largest professions, is undergoing a tremendous change right now, as is health care in general. Because nursing is a large occupation, many new workers will continue to be needed every year to replace those who retire or leave the profession. On the list of occupations with the greatest number of predicted new jobs in Minnesota from 1993 to 2001 (p. 33), registered nurse ranks #4.

However, at the present time, the nursing profession and other health careers are being affected by two major forces—rising medical costs and the aging population. From 1984 to 1994, medical costs to Twin Cities area consumers, for example, rose 87%, compared to overall price increases of 39%. Add to that the fact that the baby boomers are getting older. Older people require more medical care. So the big danger is that rising medical costs, multiplied by the significantly greater numbers of people who need medical care, may overwhelm the nation economically. To deal with these high costs, the

- 9) Patient hygiene and grooming
- 10) Safe lifting technique, etc.
- 11) Moving/turning patient in bed
- 12) Nutrition and fluid intake.

◆ NURSES IN HOME HEALTH CARE

In regard to nurses in home health care, Debra Kildahl, official of the Minnesota Home Care Assn. says, "We're talking about RNs rather than LPNs because LPNs can't do initial assessments and plan treatment—they're not licensed to. LPNs are in home care too, but not as prevalent. For RNs, home health offers good opportunities, especially for those with public health experience or certification."

Mr. Calkins of the nurses assn. says that "Home health care is one of the fastest growing fields—however, although the growth rate is high, the home health field is still quite small, so the numbers of RNs involved is not large, like 2-3% of the total number of RNs. But it is the direction health care is headed rather than acute care in hospitals. The emphasis is on shorter hospital stays, with more home visits afterward."

EXCEPT WHERE NOTED, THE FOLLOWING STATEMENTS ARE ABOUT THE NATIONAL OUTLOOK FOR SMALLER-SIZED MEDICAL CAREERS.

◆ BIO-MEDICAL TECHNICIAN:

One school listed Bio-Med Tech as one of their programs *least* likely to lead to related jobs. This coincides with other evidence that this is a glutted field.

◆ CARDIOVASCULAR TECHS:

Overall employment is expected to grow more slowly than average, but technicians and technologists will experience different patterns of employment change. Employment

of **EKG TECHNICIANS** is expected to decrease as hospitals train nurses and other personnel to perform basic EKG procedures. Employment of **CARDIOLOGY TECHNOLOGISTS** is expected to grow faster than average as the population ages because older people have a higher incidence of heart problems. **EEG TECHS:** Employment is expected to grow much faster than average, reflecting the increased number of neuro-diagnostic tests performed. More testing will occur as new tests and procedures are developed and as the aging population requires more medical care.

◆ **CHIROPRACTORS:** This field will grow faster than average due to rapid growth in the older population.



◆ Emergency medical techs — EMTs:

Employment of EMTs is expected to grow faster than average because of the increasing number of older people, who are more likely to need emergency services. Most job openings will occur due to this field's high turnover.

◆ MEDICAL RECORD TECHS:

Employment is expected to grow much faster than average. Demand will arise from rapid growth in the number of medical tests, treatments, and procedures, and the increasing scrutiny of medical records by third-party payers, courts, and consumers. Medical records techs are one of the fastest-growing occu-

pations in Minnesota from 1993 to 2001 (the 18th fastest), with a 35% increase.

◆ NUCLEAR MEDICINE TECHS:

Employment is expected to grow much faster than average. Substantial growth in the number of middle-aged and older people will spur demand for nuclear medicine tests. Technological innovations should increase the uses of nuclear medicine, further strengthening demand.

◆ OCCUPATIONAL THERAPISTS:

Employment is expected to grow much faster than average due to strong growth in rehabilitative services. Medical advances now make it possible for more patients with critical problems to survive and need therapy. Also, as the baby-boom generation moves into middle age, the incidence of heart attack and stroke will increase. The rapidly growing population 75 years of age and above, and disabled children entering special education programs, will spur further demand. A Minnesota home health care association says the job outlook right now for occupational therapists in home health care is good to excellent depending on geographic area (best in Twin Cities). In rural areas, employers may contract for services rather than hire. Occupational therapy is one of the fastest-growing occupations in Minnesota from 1993 to 2001 (the 16th fastest), with a 37% increase.

◆ **OCCUPATIONAL THERAPY ASSISTANTS:** The job outlook is very good. Two technical & community colleges list occupational therapy assistant as a field most likely to lead to related jobs. Occupational therapy assistant is one of the fastest-growing occupations in Minnesota from 1993 to 2001 (the 8th fastest), with a 45% increase.

◆ **PHYSICAL THERAPISTS:** Job outlook is excellent, but it's extremely hard to get into available training.

◆ PHYSICAL THERAPY ASSISTANTS (& CORRECTIVE THERAPY ASSTS.):

Job outlook is very good. Three technical and community colleges list physical therapist assistant as a field most likely to lead to related jobs, and three said it is a field most likely to lead to jobs which pay relatively well. Physical therapy assistant is one of the fastest-growing occupations in Minnesota from 1993 to 2001 (the 10th fastest), with a 43% increase.



◆ PHYSICIAN ASSISTANTS:

Employment is expected to grow faster than average due to expansion of the health services industry and increased emphasis on cost containment & primary care. Job prospects will be excellent, especially in rural and low-income areas that have difficulty attracting physicians.

◆ PSYCHIATRIC AIDES:

The number of jobs for psychiatric aides will grow faster than average to meet the needs of the very old and of those suffering from psychiatric and drug abuse problems.

◆ RECREATIONAL THERAPISTS:

Employment is expected to grow faster than average, because of expansion in long-term care, physical and psychiatric rehabilitation,

and services for the disabled. The growing number of older people is expected to spur job growth for activity directors in nursing homes, retirement communities, adult day care programs, and social service agencies. Continued growth is expected in community residential facilities as well as in day care programs for people with disabilities. Job prospects are expected to be best for those with clinical experience.

◆ RESPIRATORY THERAPISTS:

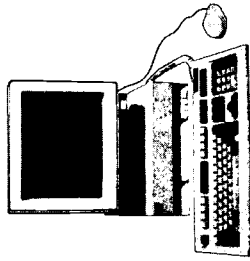
Employment is expected to grow much faster than average because of the substantial growth in the middle-aged and elderly population. An older population is more likely to suffer from diseases such as pneumonia, chronic bronchitis, emphysema, and heart disease. Rapid growth in the number of patients with AIDS also will boost demand since lung disease often accompanies AIDS. And because more premature infants now survive, job opportunities are expected to be highly favorable for those with neonatal care skills. A Minnesota home health care association says the job outlook right now for respiratory therapists in home health care is quite good.

Two technical & community colleges list respiratory care practitioner as a field most likely to lead to related jobs, & four said it is a field most likely to lead to jobs which pay relatively well.

◆ **SURGICAL TECHS:** Much faster than average growth is expected as a growing population & technical advances increase the number of surgical procedures performed. Growth will be fastest in clinics and offices of physicians due to increased out-patient surgery; however, most jobs will be in hospitals.

MORE ABOUT COMPUTER PROFESSIONS

"We are finding a skill gap in the workforce," says Kathy Howson, staffing operations manager for US West in Minneapolis, discussing the current mismatch between computer skills that job-seekers possess and computer skills that employers need. "I have jobs open right now that are high paying. I just can't find the right people."



"There is a shortage," says Kathryn Facklam, recruiter for Cray Research Inc./CraySolutions. "The technical requirements frequently change. Those with the right skill sets are in high demand."

Source edp, a computer placement company, says that "to remain competitive in today's job market, MIS professionals must...keep up with the latest technology."

"Everyone is doing programming: publishing, telecommunications, software houses," according to Rick Krueger of the Minnesota Higher Technology Council. Programmers are in great demand in the Twin Cities right now, he says, and a programmer with C++ programming background "would get hired by noon here."

Companies are finding it difficult to match open computer positions to people with the right combina-

tion of skills. So they are offering incentives to employees who bring in qualified people, Krueger says. Many companies are looking outside the Twin Cities and the state, he adds. "It's a skill issue more than anything else."

So, what is the skill gap?
What skills will fill the gap?
What is the latest technology?

To answer these questions, *Career Focus* has received permission to use the following articles from two informative publications, *Source edp 1995 Salary Survey* and *1995 Twin Cities Employment Trends Newsletter*, produced by Source Services, a professional job placement company.

■ LATEST TECHNOLOGY

Some of the latest technology, according to Source edp, is the following:

- ◆ Client/server systems;
- ◆ Local area networks (LANs);
- ◆ Relational databases;
- ◆ Distributed applications;
- ◆ Multi-tasking operating systems such as UNIX, OS/2, Windows NT, or VMS;

◆ Single-user workstations running graphical-user interfaces such as OSF/MOTIF or X-Windows under UNIX, Microsoft Windows, and Mac-OS;

◆ High-level languages and GUI development tools [graphical-user interfaces] such as Smalltalk, Visual BASIC and Powerbuilder;

◆ LAN technology such as TCP/IP, Decnet, Novell Netware, NT Server, or Banyan Vines;

◆ C or C++;

◆ Relational database;

◆ Database management systems like Sybase, Oracle, Ingres or Progress;

- ◆ LAN administration;
- ◆ Office automation support.

"IF THERE'S EVER BEEN A FIELD FOR LIFELONG TRAINING, IT'S COMPUTER SCIENCE."

—Dan Wagner

■ MAINFRAME

The mainframe will continue to be the workhorse of information processing for the next several years....The demand for mainframe development and maintenance programmers should remain steady until the late 1990s. Mainframe professionals, however, should develop additional technical skills such as DB2/SQL and get some exposure to client/server technology. Strong analytical experience supporting packages such as Dun Bradstreet's accounting system will also be important.

■ DECENTRALIZED INFORMATION PROCESSING

More and more often non-computer personnel ("end-users") are able to do their own computing, using fourth generation languages and relational databases to develop applications without the help of computer personnel. In turn, MIS [management information systems] will create the infrastructure, regulate the flow of data within the organization and provide the facilities, tools and training that empower the end-user community.

The expanded role of the end-user in computing will challenge the MIS professional to not only be technically proficient, but also be

able to communicate with users and understand their functions. MIS management will create internal consulting groups to address critical applications needs. These teams will be staffed by systems analysts who have interviewing and negotiating skills, formal structured design skills and an understanding of the firm's business. They will use CASE tools, including data analysis and modeling software prototyping tools and code generators to quickly create working models of new systems.

Additionally, the general flattening of organizational structures in MIS departments has established independent consulting as a viable career option for many [computer] professionals. These professionals work on a per project basis, and consequently should exhibit a client service attitude and be able to handle often intense project demands.



■ IMPACT OF OPEN SYSTEMS

Standards in operating systems, languages & software architecture are being established. These will increase the long-term viability and ROI of software development. Open operating systems such as UNIX, MS-DOS and OS/2; open networking standards like OSI and IBM's system network architecture (SNA); and standard languages like COBOL, RPG 400, C, C++, SEQUEL and SQLi will continue to become more prevalent. Systems professionals should learn

at least one of these standard languages, understand open system concepts and concentrate on expanding their analytical skills and industry knowledge.

■ **SOFTWARE GROWTH CONTINUES**
Software development will continue to be a lucrative yet competitive market. Software companies will invest significant resources in initial product analysis, quality assurance and end-user support. The continued growth of the software industry has created a strong demand for detail-oriented software engineers who specialize in software quality control and for technical professionals who have solid customer relations skills.

■ NEW TECHNOLOGIES

New technologies abound, all centered around some sort of distributed technology: new fourth generation languages, distributed databases, GUI front ends, and lots of connectivity. The demand to build distributed systems has created a new employment group and a corresponding shortage of professionals with those skills. Together, these two major forces have created a very healthy appetite in the computer market place for skilled, talented and motivated computer professionals and managers.

■ WHAT SKILLS ARE HOT?

The MIS market in 1995 continues to be strong, as it has been the last few years. This has resulted in a shift from the traditional three-tier platform architectures to a two-tier platform architecture consisting primarily of IBM mainframe legacy



type systems and client/server technology. The mainframe plays the role of a central data warehouse or repository with the client/server platform offering graphical user interface capabilities, quick and easy information access, quick development with more power and less cost.

Therefore, the majority of skills & positions today call for experience in either mainframe/legacy or client/server technology. More specifically, you can rest assured your career is headed in the right direction if you possess the following:

MAINFRAME: COBOL and CICS with DB2 or similar relational database highly preferred. CASE technology, data modeling, project leadership or project management.

CLIENT/SERVER: MS Windows or Unix platform with C or C++ and object-oriented programming. Back-end SQL Relational Database, Oracle, Sybase or Informix highly preferred.

LAN/WAN TECHNOLOGY: Novell Netware 3.1X, LAN administration, setup, implementation and troubleshooting. Knowledge of network protocols, servers, wide area products such as bridges, routers and hubs. CNE preferred.

MIDRANGE: There still remains a moderate demand for IBM AS/400, RPG/400 technology. Although this platform is not as hot as it was a year ago.

■ TYPES OF COMPUTER WORKERS

From Source *eip* 1995 Salary Survey

PROGRAMMING (Commercial):

MAINFRAME COMPUTER

Programmer
Programmer / Analyst
Senior Programmer / Analyst
MIDRANGE COMPUTER
Programmer
Programmer / Analyst
Senior Programmer / Analyst
MICROCOMPUTER
Programmer
Programmer / Analyst
Senior Programmer / Analyst
SOFTWARE ENGINEERING
Software Engineer
Senior Software Engineer

BUSINESS SYSTEMS:

Systems Analyst
Computer Consultant
EIS Analyst

DATA CENTER:

Data Center Manager
Computer Operations Operator
Senior Operator
Operations Support Tech
Senior Technician
Communications Network Operator
Senior Operator

SPECIALISTS:

Database Management
Database Analyst
Database Administrator
LAN Administrator
End User Support
PC Support Specialist
PC Analyst
System Administrator/Mgr.
Telecommunications
Voice Analysts
Data Communications Analyst
System Programmer
EDP Auditing

EDP Auditor
Senior EDP Auditor
Technical Writing
Writer
Editor
Systems Integrator

MANAGEMENT:

MIS Director/CIO
Small/Medium Shop
Large Shop
Applications Development
Technical Services
Project Manager
Project Leader

SALES:

Account Representative
Pre/Post Sales Support Rep.
Management

—End of articles from Source Services—



■ THE COMPUTER INDUSTRY IN MINNESOTA AND RETRAINING

In the mid '80s, mainframe and supercomputer manufacturing had a strong presence in Minnesota. But "computer technology shock" resulted after manufacturers downsized in the shadow of personal computers (PCs).

The current status of the state's computer manufacturing economy is disputed. One opinion forward-

ed by Rick Krueger of the Minnesota Higher Technology Council is that Minnesota is still strong in the manufacturing industry. The state ranks an overall fifth in the nation for number of manufacturers of computer peripheral equipment, electronic computers, computer storage devices, computer terminals, and computer & office equipment, and second in number of employed people in those same categories. (Source: *Gale State Rankings Reporter*.) Although Minnesota is no longer producing large quantities of mainframes and larger computers, the state is a huge player in the component industry, Krueger says.

Despite these rankings, the number of people employed in that industry is still down from the mid '80s, says Gil Young, technology information specialist for Minnesota Technology, Inc. The state missed the PC revolution of the late 1980s, he says, and as a result the computer manufacturing industry as a whole is declining. Minnesota is primarily a larger computer manufacturer, and the demand for larger computers is decreasing as computers become more compact and efficient. Major layoffs in the last seven years at Honeywell, IBM, Control Data and Unisys reflect that decrease.

However, although computer manufacturing may be on the decline, businesses and government agencies have increasing demand for employees with specific computer knowledge. Unfortunately, in many instances the knowledge that computer workers possess is not up-to-date. Thus the need for retraining.



"Employed people are coming back and getting what they need," says Daniel Wagner, director of academic program review for community & technical colleges. People who graduated as recently as 10 years ago are coming back to school because the computer languages they learned are now obsolete, he says. The main reason for unemployment in this field is outdated skills, Wagner adds.

"Five or ten years ago the typical major was called computer programming," says Wagner. Now, not only are there a number of short-term certificates but also a diversity of degrees offered. The certificate programs are specific to particular computer languages or skills, depending on the needs of students or employers. These certificate programs are popular because they are quick updates in areas in demand.

The expected length of time that computer knowledge is useful for new grads is four to five years; then they will need to return to school for more education, Wagner says. By the year 2000, that length of time is expected to reduce dramatically. "If there's ever been a field for lifelong training, it's computer science."

—Some of this text was excerpted from an article by Julie Pool in *Minnesota Economic Trends*, Winter 1995.

■ MORE ON COMPUTERS—next page 10

MORE ABOUT CAREERS IN COMPUTERS, ACCOUNTING, MEDIA

COMPUTERS—SEE ALSO PP. 20, 52-53, & 68-75 ACCOUNTING—SEE ALSO PP. 12, 18 MEDIA—SEE ALSO P. 24

Career Focus believes that 4-year training in computers has become a much more sure entry into the field, basing our opinion on reports from placement offices at both 4-year and 2-year schools. Stronger competition faces grads from 2-year computer training; it may be wise to use some caution when considering two-year programs. On the other hand, a data processing association says: "Two-year grads are still finding decent jobs, although probably at lower wages [than those with bachelor degrees]. Over time, job entry requirements will shift slowly to a 4-year degree, not quickly however."

■ MORE ON COMPUTER WORK

Nationally, *U. S. News & World Report* magazine (Oct. 1994), named systems analyst, computer scientist, computer engineer, operations research analyst, and programmer as "Hot Job Tracks" in computing. Best job chances for programming and systems analysis are at data processing services companies, software companies, & computer consultants. Insurance companies also have demand, as do banks & other financial institutions.

◆ COMPUTER PROGRAMMERS

Nationally, the number of jobs for programmers is expected to increase faster than average as organizations seek new applications for computers and improvement to the software already in use. Employment is not expected to grow as rapidly as in the past, however, because new software and techniques have simplified or eliminated some programming tasks. A data processing association says in regard to software, "Powerbuilder is hot, as will be Smalltalk in the next year or so, and possibly Visual Basic. But new products show up so fast we will not see anything like the longevity of COBOL, although C++ is a standard language."

◆ COMPUTER ENGINEERS

On the list of fastest-growing fields in Minnesota, computer engineer ranks #2, with a 67% increase from 1993 to 2001. On the list of occupations with the greatest number of predicted new jobs in Minnesota, 1993 to 2001, computer engineer ranks #9.

◆ DATA PROCESSING EQUIPMENT REPAIRER

This is the 17th fastest-growing occupation in Minnesota, with a 40% increase, from 1993 to 2001.

■ ACCOUNTING

Nationally, faster than average growth in the number of jobs for accountants will be spurred by increases in the number of businesses & the complexity of financial information. In addition to setting up books & preparing taxes, more accountants will be needed to tailor financial information and advise management individually. Four-year degrees or grad degrees in accounting & CPAs should result in good opportunities.

U. S. News & World Report magazine (Oct. 31, 1994), named internal auditor, health care accountant, and telecommunications accountant as "Hot Job Tracks" in the accounting field, suggesting an increasing demand for those specialties.

Indications are that more & more often a 4-year degree in accounting is required to become an accountant. Eleven four-year colleges list accounting as a field most likely to lead to related jobs

(the top-rated major). Ten 4-year colleges list as a field most likely to lead to jobs which pay relatively well (tied with engineering as top-rated major). BUT...

Five *technical & community colleges* list accountant as a field least likely to lead to related jobs, and five list it as a field least likely to lead to jobs which pay relatively well. Furthermore, several of these two-year colleges add comments such as:

○ A lot of jobs but very competitive; every type of postsecondary school teaches it.
○ There are too many accounting grads from tech & community colleges & from state universities.
○ Hard job market, lots of 2-year & 4-year grads looking at same jobs.

A job placement firm says, "For those with under 10 years experience in accounting, prospects are good, if they have a good accounting background and healthy skills. In the long term a person's career will be enhanced with a 4-yr. acctg. degree. Those with a 2-yr. degree can peak out early in their career."

A CPA association states that the "best thing an accounting student could do is to not ignore the right brain stuff in college: many, many come out well-trained in accounting, the left brain, but lacking in communication skills: writing and people skills. Students would do themselves a service by focusing more on those, in addition to accounting.

"Expertise in tax accounting is good, cost accounting is good."

■ MEDIA

Cautions exist for the following media careers:
television production tech
audio visual technician
mass media technician
media communications tech
audio records specialist
multimedia specialist
professional photographer.

◆ BROADCAST TECHNICIANS

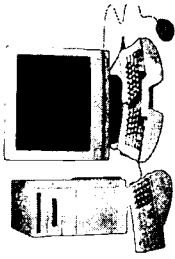
A union says, "A job for life with a TV station is less and less likely. TV stations are not expanding. There have been layoffs at networks but not locally. There have been buyouts though. TV stations tend to not add to their full-time staffs; prefer part-time with no benefits. For those just coming out of training the communication field is not so good. There are now two pay tracks: one low, one high. New people will start at the low with no hope of getting to the high. That's the reality."



■ PERSONAL SERVICE, ■ FOOD SERVICE, ■ PROTECTIVE SERVICE

◆ COSMETOLOGISTS

The cosmetology field has a reputation for being easy to enter, requiring completion of only about a year of training. On the negative side, however, it also has a reputation for attracting a large number



of trainees, and many, if they complete the training, receive fairly low wages to start, and many drop out after a short time in the field. Two technical & community colleges list cosmetology as a field MOST likely to lead to related jobs, but three schools list it as a field LEAST likely to lead to jobs which pay relatively well.

In spite of the negatives, there is a positive side for some people in this field. The following statements about the cosmetology field were received from an official of a cosmetologists association in July 1995:

"Present job availability is really great; there are shortages in all specialty areas. Salons have openings that they can't fill, and we expect the same a year from now. Esthetics (skin care) people and manicurists are still in demand. "Salaries for cosmetologists are

actually higher" than those generally reported. The official thought that a good person coming out of school now could expect a fair salary if you include tips. "After 3-4 yrs. if you're really good you could make [a lot more], but it depends on how good, and how hard a person wants to work. There's lots of part-time if you want it and you can work around a family, work three days a week, [and still make a good living]. It's also an easy, fun job.

"Those who leave cosmetology are probably not people-persons; you do need people skills. For some that leave, it may be being on their feet too much, some may have trouble with the chemicals used in cosmetology.

"One opportunity that people should consider is that after licensing and experience, a cosmetologist can become an education specialist. Manufacturers will hire people to go into salons and train the staff in the use of products. "Other options are sales, teaching, big platform demos at trade shows." The association official has travelled all over the US, engaged in the above activities.

◆ BEAUTY SALON MANAGERS

It's not the first thing that comes to mind when the *managerial* field is mentioned but...the cosmetologist association official also says there's a shortage of beauty salon managers, because, by law, all beauty salons need managers. The association says there's a "great need," and that there "may be a shortage for a few years, unless the law is changed."

◆ RESTAURANT COOKS

Restaurant cook is an occupation which is growing very fast in Minnesota, as the population increases...and the trend continues to prepare fewer meals at home. Plentiful job openings, because many workers leave this field to seek other jobs. Last year a Twin Cities school said of its food service/cook training: "No trouble getting jobs. One of best job outlooks of all programs at this school."

◆ CORRECTIONAL OFFICERS

Correctional officer/jailer is the 12th fastest-growing occupation in Minnesota. A spokesperson for a correctional officers union gave the following

ized training. So, in this time of growth, the field of *training* the new corrections workers might be particularly lucrative. Also, salaries for trainers are fairly good.

■ PRECISION PRODUCTION CRAFTS

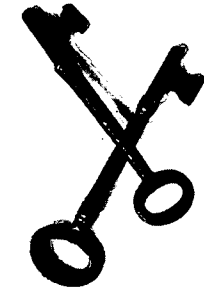
◆ MACHINIST

In the past couple of years an excellent job market has been available for the machinist trade. When state technical colleges in Summer 1995 were asked to list their programs which are most likely to lead to jobs, *machine tool* was the 2nd-most frequently mentioned program. And eleven tech colleges listed machine tool as the field with the *highest* chances of leading to jobs with good pay.

The following are comments from several knowledgeable sources:

○ An association of machine shops said in Feb. 1996 that "sixty of our members responded to a survey with 130 job openings." Most prevalent openings were for CNC machinists (computer numerical control), then general machinists. "We can't get enough people—quality people. It's hard to find 'ace' machinists who are very experienced and qualified in all areas of machining—they are very, very rare.

"And it's hard to find workers who are good at even one or two machining procedures. Or even entry level workers. Well, come to think of it, it's difficult to come across even the guys who jump



information in Sept. 1995: All the union's corrections facilities are extremely busy—workers are "busted at the seams, pushed to the max, caught between the need to house convicted criminals vs. budgetary constraints. Public cry is to house the people—more toward punishment than anything. So there will be public dollars for this."

A new private prison was recently built in Appleton, and a new prison in St. Cloud is anticipated for the future, and "when a new facility opens, it means quite a bit of employment opportunity."

What enhances a person's chances of obtaining a job? "Clean record, good health, good vision, high school diploma, or advanced training is good. Jailer is more of an entry level position, so people with training beyond an associate degree would probably not be looking to get this kind of job. But an associate degree in law enforcement would be helpful and would increase chances of landing a corrections officer/jailer job."

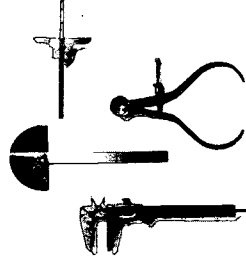
◆ TRAINERS OF CORRECTION OFFICERS

People who have experience in corrections and *who are capable of training other correction officers* should have very good opportunities for good jobs. Correction officers are required to have special-

from job to job; when we find them, we try to take them, and try to retrain them." In short, on all levels it's difficult to find workers. "For 4, 5 years it's been like this: our industry goes strong for seven quarters (1.75 years) and then there's a lull for several weeks. Last June, though, that lull lasted only 2 to 3 weeks.

"Minnesota is [training] about 550 machinists per year and our industry can usually consume 1000/year. We are at that point right now."

The association goes on to say that one company has a high school apprenticeship program with a Twin Cities school, and they have a couple high school apprentices that split a 40-hour week. Because the company has such a high need for machinists, they plan to keep the students on as regular employees after they graduate.



○ In spite of the demand, there are also warning signals for the future. In Minnesota, the machine tool trade will grow at a very slow rate of 4% until 2001, compared to the average growth rate of 12% for all occupations. Nationally the number of jobs is expected to *decrease* for both machinists and tool & die by 2005. This could be seen as a contradiction of the obvious high demand for machinists. However, —continued on page 56—

MORE ABOUT MACHINING, TOOL & DIE, PRINTING, & CONSTRUCTION

—Machinists continued from p. 55

job prospects are expected to be good because employers have reported difficulties in attracting workers to the machinist trades, to replace those that retire.

- One technical college states that the machinist field is hard to predict because it's one of the first to be cut when the economy is tight.
- Another technical college states that the machinist field is good for women who want non-traditional opportunities.

- A union official in March 1996 confirmed earlier statements that the job outlook for machinists is "very good to excellent. We represent 20 different companies and most were having problems finding machinists. There is still a shortage. We could place people with skills on such things as lathes, drill presses, etc. We also see a trend developing that CNC training is more and more necessary. It's good to know CNC programming; you have a leg up if you know CNC, because it's showing up all over—even in grinding and metal stamping..."

In addition, "We still do have employers looking for traditional [manual] machinist, although the thrust is to computer technology. "From our perspective the outlook is very good. Employers that we deal with have found for quite a few months that they have had to look pretty hard for machinists. For example, one employer was advertising in five states for workers.

"CNC technology is a demand area. To the average person looking at a CNC operator it looks like all you're doing is pushing buttons but in reality you need to under-

stand what's happening to a piece of metal when you're drilling it, turning it, cutting it, etc., the same as a traditional machinist would need to know.

"There are three primary CNC areas [in demand]:

- The CNC machine operator who also has regular machinist skills;
- The CNC operator who has regular machinist skills plus CNC programming skills;
- People who have technical capabilities to repair CNC machines—they would be like millwrights or maintenance repairers with the addition of electronic skills. A CNC repairer could be a machinist who has really excelled, advancing from operating to programming to repair and electronics."

- Another union official in August 1995 said that "there will be opportunities in the future for versatile machinists, primarily those that know CNC (computer numerical control). Manual machining is sliding down in popularity because work can be done so much faster with CNC machines. We encourage people to stay current with changes in the machinist field."

◆ TOOL & DIE MAKER:

- The first machinist union above says "there's always a demand for highly trained tool & die, but not anywhere as much as machinists; there are many more machinists than tool & die workers."

- The 2nd union states that

"there's still a demand for tool and die. One demand area is computer generated systems. Computer drawing is showing up on the shop floor now, as opposed to the

This is cutting into the number of jobs in the printing industry, because that type of work was traditionally done at printing companies.

"There's a great availability of workers looking for entry level jobs in desktop publishing—many have a college degree, are skilled in desktop publishing, and are willing to accept the pay."

The only real demand areas in desktop publishing are:

- "Highly-skilled desktop publishing workers: those that are heavy into software programs such as Adobe Illustrator, Photoshop, Quark, and who also know color theory and can do sophisticated manipulation.

- "Pagination and desktop publishing people who can become customer service reps [they talk to customers about printing jobs] or who can be sales people."

◆ PRINTING MACHINE OPERATOR

See also pp. 30-31

One printing industry spokesperson says that entry level positions are available in *binderies*, but few people like the entry wages of \$7-8 per hour, and the jobs are not very glamorous—but workers can advance from there. Also, companies are offering entry level training in pressrooms—where jobs pay more and where a person starts as a helper, is trained, and eventually is promoted to *printing press operator*. A printing association says the field of "flexographic machine operators is growing quite fast" (involves a flexible plate which prints on bread packages, cartons, packaging). And running big presses such as Heidelberg results in high pay.



■ CONSTRUCTION

See also pp. 32-35

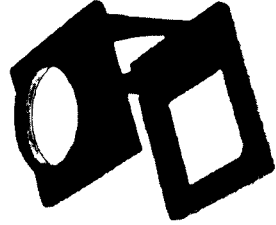
◆ PAINTERS, PAPERHANGERS

A union said in Fall 1995 that in the last two years their 500-member union has never had more than 20 painters laid off at one time. They expect the same a year from now, because jobs are so far behind. In fact, demand for painters was so high in the summer of 1995 that new St. Paul Technical College painting students were allowed to work for contractors as special "pre-apprentices."

Another union says "For trained painters with good work habits, the market is good. Not as good for the untrained." They expect the demand to be pretty strong for 1 to 2 years, but that it's hard to predict farther out because "the market is volatile. It depends on the amount of construction dollars spent. But...the better trained, more diversified workers with good work habits will lose little time being unemployed."

◆ BRICKLAYING

An association of brick companies says that job prospects for bricklayers are excellent now and for the coming years, primarily because "the current population of brick masons is in their 50s—they're an aging group. Young people are needed in the field, through apprenticeship and school....Only one state vo-tech school is feeding bricklayers into the job market."

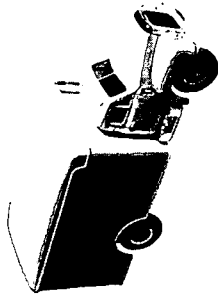


■ DRIVING

See also pp. 34-35

◆ TRUCK DRIVING

In 1993 and 1994 the nation had been suffering from a shortage of truck drivers which was getting a lot of publicity. But by Summer 1995 the demand for truck drivers tapered off, even though some observers think it's just a temporary lull and that demand will climb back up soon. In Minnesota truck driving is still predicted to have the 6th-largest number of new jobs of all occupations from 1993 to 2001.



And eventually you can move up from there.

"But as far as finding good solid driving jobs that pay \$15-20 an hour with full benefits, it's pretty unlikely at the moment. Last year at this time, I had employers begging for drivers, but not now." In the long run, the union rep says, "We believe there'll be a shortage, partly because the restrictions are tougher: drug tests will preclude some people from driving jobs, and if you've had a DWI or a couple of speeding tickets in the last two or three years, then chances aren't too good."

"....Two keys are having a clean driving record and passing drug tests. ...Good drivers don't have to look for jobs—people call them. But it's stagnant right now, except for those lower-end jobs where there's always a lot of turnover."

○ Another union said in Fall 1995: "Normally there is a shortage of *qualified* drivers, that is, those with a CDL [Commercial Drivers License], in good physical condition, and drug-free & alcohol-free. However, at the moment some of the large carriers are downsizing."

○ A trucking industry association said in February 1996: "Because of the state of the economy [hiring is] fairly slow. 1994 was a very strong year for the trucking industry, but it tapered off through 1995." However, the association still anticipates driver shortages for large trucking companies that haul goods nationwide, pointing to American Trucking Association claims that there will be a shortage of 300,000 drivers in the USA for *each* of the next 10 years. Much of the shortage will probably be due to the

lack of drivers who are willing to be out over-the-road for possibly two weeks at a time, with long hours. Competition is expected for jobs that offer the highest earnings or best working conditions.

"The chances for a recent graduate getting a job are excellent if you are willing to drive interstate. You must be 21, although some insurers want someone with three to four years experience, so they require a minimum age of 26 to 28."

◆ SCHOOL BUS DRIVERS

An official for a school employee union said in March 1996 that in the Greater Minnesota area outside the Twin Cities, "We're seeing a real shortage of drivers, ever since the CDL (Commercial Driver's License) requirements took effect along with the drug check and the background check. And the wages haven't kept up with those requirements. Some districts are screaming for drivers, and most districts are short of substitute drivers. There's not an abundance of candidates for jobs....Pay in the outstate might average \$10 /hour if working for school districts," but pay is lower at subcontractors.

A spokesperson for Ryder Bus Co. in the metro area said in March 1996, "There's still opportunity for drivers, but not a shortage to the extent that it was last year. We're still looking for drivers continuously, but that's not unusual in our industry, due to significant turnover. So we're still aggressively recruiting. We're probably in a fair situation rather than good. We're coming off a terrible year last year, when the office staff was filling in driving, sometimes every day." The company pays \$8.50 to start with the possibility of bonus-

es, up to \$11/hr. Drivers can work from 1 to 3 shifts per day, guaranteed 2 hours for the morning shift, one for the noon shift, and two for the afternoon shift. Those who drive the morning and afternoon shifts often get 7 to 8 hours/day. Parents may take up to two preschool children on the bus with them, subject to approval by the company.

One large suburban school district in the Twin Cities says, "There's still a shortage—it's not as severe as before but it still exists. The biggest problem is that school bus driving is part-time." They have three contractors who handle the training of the drivers. Drivers undergo a criminal background check and drug testing, and receive their drivers license after passing several written tests and one driving test. Salary range is \$9.50 - \$11/hour.



■ SALES & MARKETING

See also pp. 36-39

There is an indication of a surplus of *commission sales people* in Minnesota. Some companies may need fewer commission salespeople, due in part to the use of technologies, such as voice mail, paging systems, cellular telephones, fax machines, and laptop computers, which help each worker to accomplish more. Mastering the use of these technologies may be wise. Nationally, *U. S. News & World Report* magazine (Oct. 1994), named

the following as "Hot Job Tracks" in the sales field, suggesting higher demand in these specialties:
Merchandise planner/distributor
Preferred customer representative
Travel sales
Home health care sales.

◆ BUSINESS SERVICES THAT MIGHT NEED "SALES"

For the past few years there's been much talk about the growth of businesses which provide *services* (contrasted with businesses which produce material goods—that is, factories & construction companies). *Services sales* has been touted as a field whose time has come. Confusion remains, however, over what the term *services sales* means. The following is a list of services which might need *services sales workers*, that is, people to find customers and convince them to buy the services.

- Health Services
Examples: nursing homes, home health services
- Personnel Supply
Example: temporary employment agencies
- Financial Services
Examples: loans, charge accounts, investments
- Advertising
- Computer Processing
- Insurance
- Real Estate
- Travel
- Recreation & Entertainment
- Lodging
- Transportation & Utilities
- Building Maintenance
- Credit Reporting
- Bookkeeping
- Security
- Printing
- Storage Space

WILL ONE TO TWO YEARS OF EDUCATION LEAD TO A JOB?

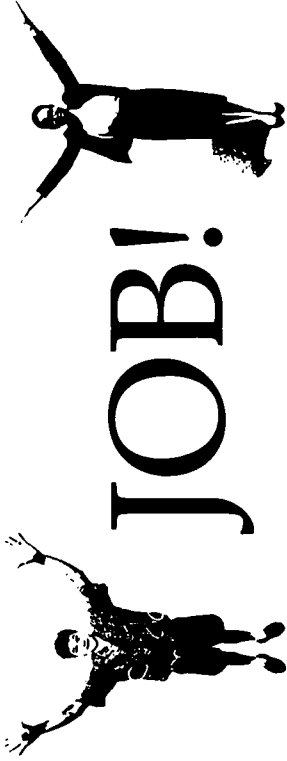
The charts on pages 58 to 60 are based on information provided to *Career FOCUS* in August 1995 by job placement officers at twenty-three technical colleges and eight community colleges. Training programs at these schools generally last one to two years. Job placement officers at all large post-secondary schools in the state were asked to update their responses to a survey that *Career FOCUS* originally did in late 1994. They were asked to respond again to the following four statements:

1. Comparing all your program offerings, list three to five programs that you see as *most likely* to lead to jobs related to the program.
2. Comparing all your program offerings, list three to five programs that you see as *most likely* to lead to jobs which pay relatively well.
3. Comparing all your program offerings, list three to five programs that you see as *least likely* to lead to jobs related to the program.
4. Comparing all your program offerings, list three to five programs that you see as *least likely* to lead to jobs which pay relatively well.

Each chart shows how many schools listed each major or program, in answer to one of the four questions above. For example, Licensed Practical Nurse (see Chart #1) was listed by thirteen two-year colleges as "most likely to lead to related jobs." Machine Tool was listed by twelve.

Some programs are listed on what appear to be opposing charts. For instance, Secretary is listed on both Chart #1 (*most likely* to lead to jobs) and Chart #3, p. 60, (*least likely* to lead to jobs). The explanation may be simply that the experience of different schools is different. But the secretarial field has a confusing outlook because it is an occupation going through much change—after years of growing steadily until it was one of the largest occupations, it's now almost certainly going to have fewer and fewer new jobs in the future, primarily because computers not only allow each secretary to do more work, but they also permit other workers—who in the past assigned work to secretaries—to do more of their own clerical work. Many job openings will still occur because each year a fair number of the 50,000 secretaries in Minnesota will retire or leave the field for other reasons, and they will need to be replaced.

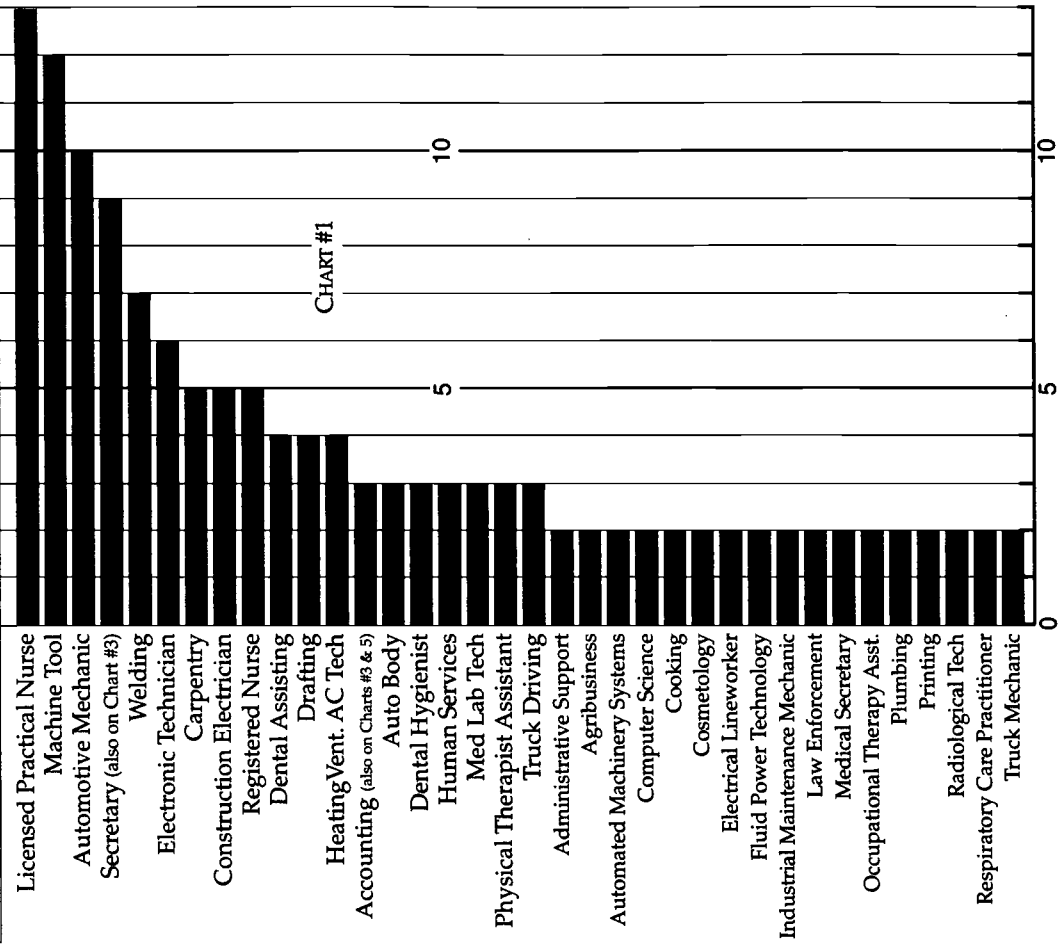
And Accounting is listed as a program "most likely to lead to jobs" both by two-year colleges and by four-year colleges (See Chart #1 on this page & Chart #5 on page 61). However, on page 60, in Chart #3, Accounting is identified by many schools as a two-year college program *least likely* to lead to jobs. In this case, although *some* two-year schools are still seeing enough jobs for their graduates, it appears that more and more often a 4-year degree is required to gain work as an accountant (*Career FOCUS* has heard that requirement from employers as well).



JOB!

TECHNICAL & COMMUNITY COLLEGE PROGRAMS MOST LIKELY TO LEAD TO RELATED JOBS

Number of schools that listed the program as one most likely to lead to jobs

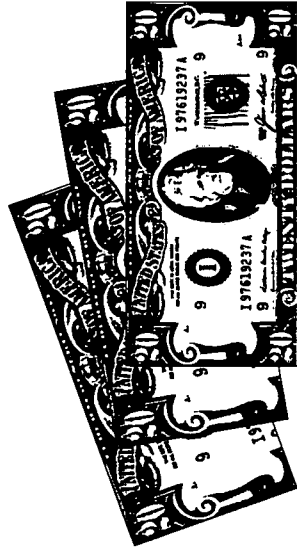


Continued from Chart #1:
Also mentioned once as most likely tech & comm. college programs to lead to jobs:

- ADN
- Agricultural Lab Technology
- Agricultural Production Mgmt.
- Allied Health Programs
- Aviation
- Band Instrument Repair
- Broadcasting
- Building Inspection
- Building Mechanic
- Business Management
- Cable TV Technology
- Child Development
- Chiropractic Tech
- Civil Engineering Tech
- Credit & Finance
- Diesel Mechanic
- Educational Assistant
- Electronic Systems
- Electric Motor
- Fashion Merchandising
- Floriculture
- HVAC Design (not HVAC Tech)
- Health Unit Coordinator
- Hospitality Management
- Information Processing: Accounting
- Instrumentation & Process Control
- Lab Tech & Mgmt.: Food Science
- Legal Assistant
- Machine Tech
- Metallurgy
- Metrology
- Microcomputer Specialist
- NAR
- Natural Resources
- Natural Resources: Forest Mgmt./Wildlife
- Non-Destructive Testing
- OPRV
- Office Information Processor
- Optical
- Paralegal
- Parks & Recreation: Interpretation
- Refrigeration
- Robotics Technology
- Security Mgmt. & Locksmithing
- Solid Waste Management
- Travel
- Wilderness Management

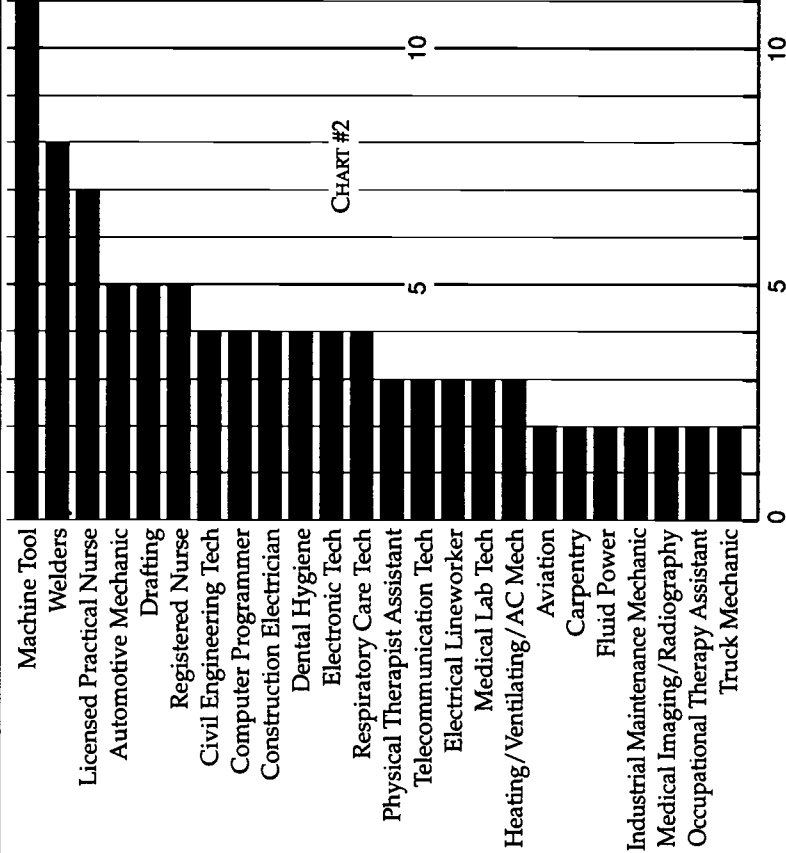
WILL ONE TO TWO YEARS OF EDUCATION LEAD TO GOOD PAY*?

*Career FOCUS estimates that "good pay" for graduates of technical & community colleges probably means starting at from \$9 to \$12 per hour just coming out of training, and earning \$12 to \$15 or more after several years experience (based on wage information for workers in these occupations).



TECHNICAL & COMMUNITY COLLEGE PROGRAMS MOST LIKELY TO LEAD TO JOBS WHICH PAY RELATIVELY WELL.

Number of schools that listed the program as one most likely to lead to good pay



Also mentioned once as most likely to lead to good pay:

- Accounting
- Agriculture Sciences
- Automated control technology
- Band Instrument Repair
- Brick & Block
- Building Mechanic
- Business Mgmt. — But see Chart #4, p. 60
- Business Micro Computer
- Cable TV Tech
- Cardiovascular Tech
- Chemical Technician
- Dental Assistant
- Electric Motor Tech
- Electronic Systems
- Environmental Tech
- Forest Mgmt./Wildlife (Natural Resources Tech)
- Heavy Construction Equipment Mechanic
- HVAC Design—Heating/Ventilating/Air Cond.
- Information Processing: Accounting & Secretarial
- Instrumentation
- Law Enforcement
- Legal Assistant
- Machine Tech
- Medical Secretary
- Metallurgy
- Metrology
- Most Medical areas
- Natural Resources
- Non-Destructive Testing
- Paralegal
- Physical Damage & Claims Adjusting
- Pipefitting
- Plumbing
- Pre-Accounting
- Pre-Engineering
- Pre-Pharmacy
- Printing and Graphics Production
- Refrigeration
- Robotics
- Swine Production
- Sales Management
- Tool & Die
- Water Resource Tech
- Water/Wastewater Technology

SOME WORKERS MAY HAVE TROUBLE FINDING A JOB OR GOOD PAY,

EVEN AFTER ONE TO TWO YEARS OF EDUCATION

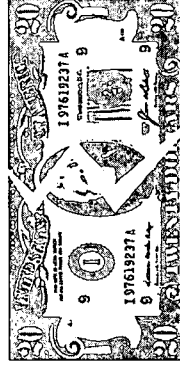
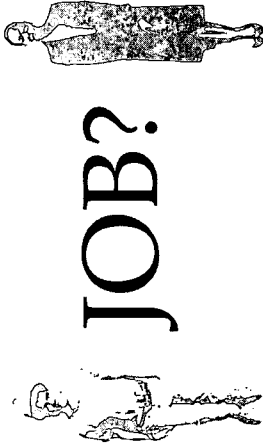


Medical Careers Office Careers

Art & Writing Service Careers

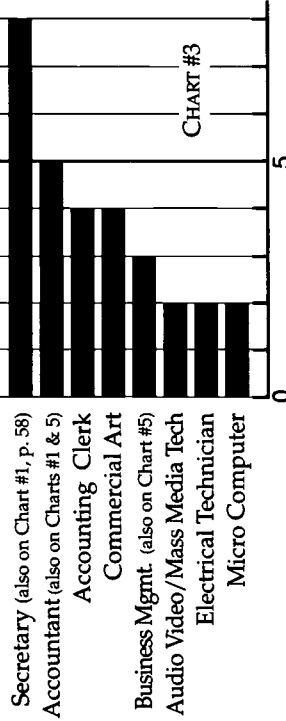
Sales Careers

A Job? Good Pay



TECH & COMMUNITY COLLEGE PROGRAMS LEAST LIKELY TO LEAD TO RELATED JOBS

Number of schools that listed the program as one least likely to lead to jobs

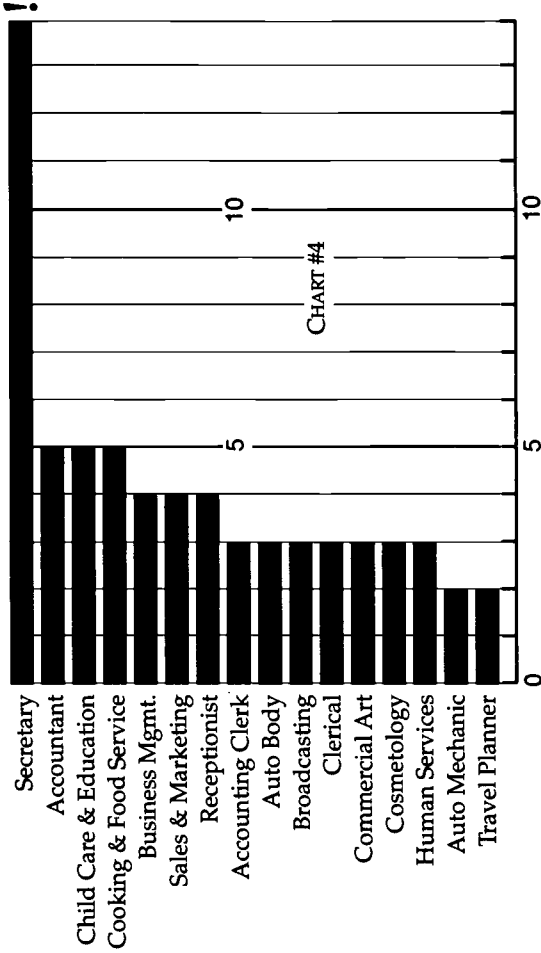


Also mentioned once as least likely to lead to jobs:

- Advertising
- Air Traffic Control
- Auto Machining
- Aviation
- Bank Teller
- Bio-Med Tech
- Clerk Typist/Office
- Commercial Baking
- Data Entry Clerk
- Construction Electrician
- Electronic Music Tech
- Financial Credit Services
- Fire Tech
- Human Services
- Law Enforcement
- Legal Assistant
- Legal Secretary
- Major Appliance Repair
- Meat Processing
- Multi-Housing
- Natural Resources
- Natural Resources: Law Enforcement
- Powerline
- Property Management
- Radio Broadcasting
- Sales and Marketing
- Supervisory Management
- Travel Planner
- TV Production
- Water/Wastewater

TECH & COMMUNITY COLLEGE PROGRAMS LEAST LIKELY TO LEAD TO JOBS WHICH PAY RELATIVELY WELL.

Number of schools that listed the program as one least likely to lead to good pay



Also mentioned once:

- Apparel Arts
- Advertising
- Audio Visual Tech
- Baking
- Bank Teller
- Commercial Photography
- Customer Service
- Data Entry
- Developmental Needs Assistant
- Fashion Merchandising
- Information Processing
- Interior Design
- Licensed Practical Nurse
- Medical Assistant
- Medical Secretary
- Natural Resources: Law Enforcement
- Nurse Assistant
- Parks & Recreation
- Parts Sales/Service
- Supermarket Mgmt.
- Watch Repair

WILL A FOUR-YEAR COLLEGE EDUCATION LEAD TO A JOB?

In Summer 1995 *Career FOCUS* asked the job placement officers at all large post-secondary schools in the state to update their 1994 responses to the four statements on

Each chart shows how many times each major or program was listed by schools in response to statements #1 & #3 on page 58. For example, in Chart 5 below, Accounting is listed by eleven different four-year colleges as "most likely to lead to related jobs." Computer Science was listed by ten schools.

It is somewhat confusing that some programs are listed on what appear to be

opposing charts. For example, Accountant is listed on this page in Chart #5 (4-year college majors most likely to lead to jobs), but in the opposing Chart #3 on page 60 (2-year college programs least likely to lead to jobs). In this case, the explanation is quite likely that, more and more often, a 4-year degree is required to gain work as an accountant. It gets more confusing when 4-year Math is listed on both Charts #5 & #6 on

page 58. Updates were received from 21 four-year colleges. Their responses to statements 1 & 3 are depicted in the charts below.

simply be that the experience of different schools is different. But whatever the reason, math has an ambiguous outlook, so the outlook for students majoring in math is some good, some bad.

By presenting these charts, *Career FOCUS* is not claiming that one major or program is better than another—there are good reasons for choosing a field of

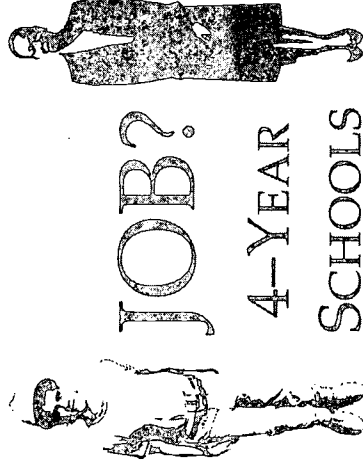
study other than for potential jobs and pay (*history*, for example, is *interesting*). But, some fields appear to be more effective than others in preparing for employment. And if one of the primary goals of your education is a job, it may be wise to look at information such as that which is presented on this page.

And double majors are an option—one personal major and one practical major.



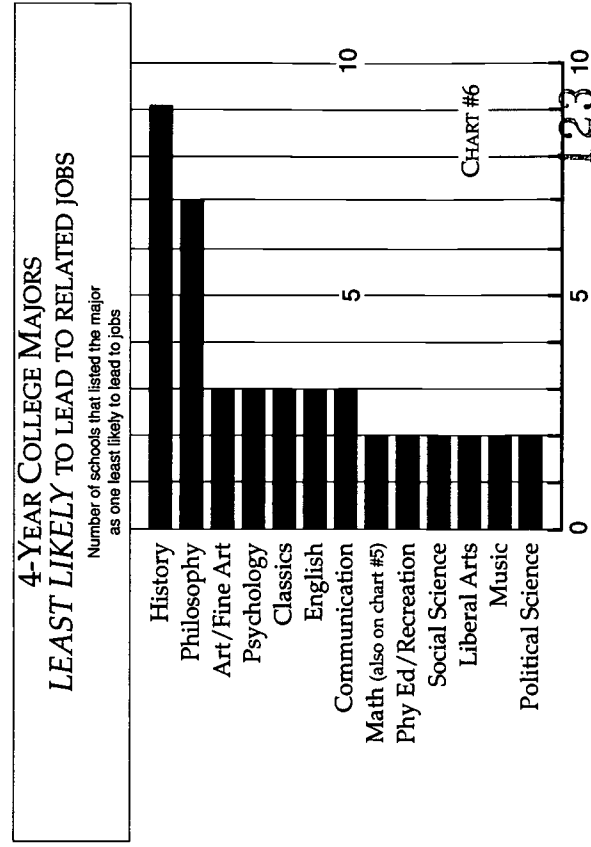
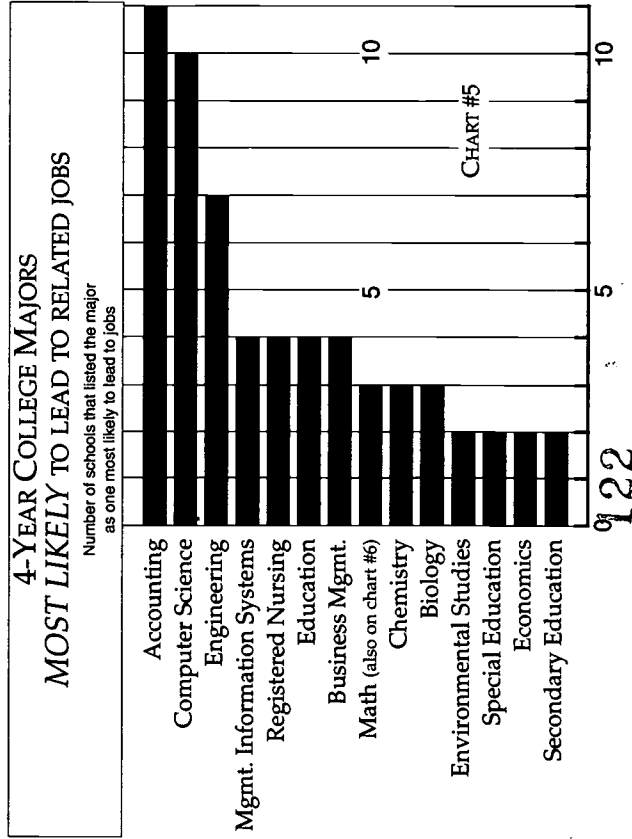
JOB!

4-YEAR SCHOOLS



JOB?

4-YEAR SCHOOLS



TECHNICAL COLLEGES

Career-oriented instruction, much of it "hands on".
The aim is to get students started in their
chosen careers within 10 to 23 months.
Small classes (average 18 students per class).

Contact the Technical Colleges nearest you or call: 1-800-657-3555 or Twin Cities: 612-296-6481

*Thief River Falls	*East Grand Forks	*Moonhead	*Detroit Lakes	*Bemidji	*Eveleth	*Hibbing	*Duluth	*Wadena	*Staples	*Alexandria	*St. Cloud	*Pine City*	Anoka-Henn. Henn. Brook. Park	Northeast Metro St. Paul Dakota County	*Willmar Hutchinson*	*Granite Falls	*Canby	*Pipestone	*Mankato*	*Rochester	*Winona*	*Albert Lea	*Austin	Albert Lea Campus of South Central Technical College	2200 Tech Drive Albert Lea, MN 56007 507-373-0656 1-800-333-2584	550 students	Alexandria Technical College 1601 Jefferson St. Alexandria, MN 56308 320-762-0221 1-800-253-9884	2000 students	Anoka-Hennepin Technical College 1355 W. Hwy 10 Anoka, MN 55303 612-427-1880 1-800-247-5588	1900 students	Austin Campus of Riverland Technical College 1900-8th Avenue NW Austin, MN 55912 507-433-0600 1-800-247-5039	700 students	Brainerd Technical Campus of Central Lakes College 300 Quince St. Brainerd, MN 56401 218-828-5344 1-800-247-2574	950 students	Brooklyn Park Campus of Hennepin Tech College 9000 Brooklyn Boulevard Brooklyn Park, MN 55445 612-425-3800 1-800-345-4655	1500 students	Canby Campus of Southwestern Technical College 1011 - 1st Street W. Canby, MN 56220 507-223-7252 1-800-658-2535	290 students	Central Lakes College: See Brainerd & Staples	975 students	Dakota County Tech College 1300 East 145th Street Rosemount, MN 55068 612-423-2281 1-800-548-5502	1800 students	Detroit Lakes Campus of Northwest Technical College 900 Highway 34 East Detroit Lakes, MN 56501 218-847-1341 1-800-492-4836	700 students	Duluth Technical Campus of Lake Superior College 2101 Trinity Road Duluth, MN 55811-3399 218-722-2801 1-800-432-2884	1800 students	Dunwoody Institute** **Not a state technical college 818 Dunwoody Boulevard Minneapolis, 55403 612-374-5800	1-800-292-GOAL	East Grand Forks Campus of Northwest Tech College Hwy 220 N., PO Box 111 218-773-3441 1-800-451-3441	800 students	Eden Prairie Campus of Hennepin Tech College 9200 Flying Cloud Drive Eden Prairie, MN 55347-2600 612-944-2222	1500 students	Eveleth Campus of Range Technical College 1100 Industrial Park Drive Eveleth MN 55734-0648 218-744-3302	400 students	Faribault Campus of Riverland Technical College 1225 SW 3rd Street Faribault, MN 55021 507-334-3965 1-800-422-0391	460 students	Granite Falls Campus of Southwestern Tech College 1593 11th Avenue Granite Falls, MN 56241-9902 320-564-4511 1-800-657-3247	450 students	Hennepin Technical College: See Brooklyn Park & Eden Prairie	Hibbing Campus of Range Technical College 2900 East Beltline Hibbing, MN 55746 218-262-7200 1-800-433-9989	600 students	Hutchinson Campus of Willmar - Hutchinson Technical College Two Century Avenue Hutchinson, MN 55350 320-587-3636 1-800-222-4424	600 students	Jackson Campus of Southwestern Tech College 401 West St. Jackson, MN 56143 507-847-3320 1-800-658-2522	450 students	Mankato Campus of South Central Technical College 1920 Lee Blvd. North Mankato, MN 56003 507-389-7200 1-800-722-9359	1600 students	Minneapolis Tech College 1415 Hennepin Ave. Minneapolis, MN 55403-1778 612-370-9400 1-800-247-0911	2800 students MN only	Moorhead Campus of Northwest Tech College 1900 - 28th Avenue S Moorhead, MN 56560 218-299-6512 1-800-426-5603	1100 students	Northwest Technical College: See Bemidji, Detroit Lakes, East Grand Forks, Moorhead, Wadena	Pine Technical College 1000 4th St. Pine City, MN 55063 612-629-6764 1-800-521-7463	400 students	Pipestone Campus of Southwestern Tech College 1830 Airport Road Staples, MN 56479 218-894-1168 1-800-247-6836	600 students	Thief River Tech Campus of Northland College Highway 1 East Thief River Falls, MN 56701 218-681-0701 1-800-959-6282	700 students	Wadena Campus of Northwest Technical College PO Box 566 405 Colfax Avenue SW Wadena, MN 56482 218-631-3530 1-800-247-2007	600 students	Willmar Campus of Willmar- Hutchinson Technical College PO Box 1097 Willmar, MN 56201 320-235-5114 1-800-722-1151	1200 students	Winona Technical College 1250 Homer Road Winona, MN 55987 507-454-4600 1-800-372-8164	975 students
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COMMUNITY COLLEGES

Community colleges have many two-year "career" programs which train students for specific occupations. They also provide the first two years of many four-year degree programs. Contact the school nearest you or 612-296-3990. (TDD 612-282-2660)

TWIN CITIES AREA

Anoka-Ramsey Community College
11200 Mississippi Boulevard NW
Coon Rapids, MN 55433
612-427-2600 (5000 students)

Cambridge Community College Campus of Anoka-Ramsey Community College
33270 Polk St. NE 55008
612-689-7000 (900 students)

Inver Hills Community College
2500 East 80th Street
Inver Grove Heights, MN 55076
612-450-8500 (5500 students)

Lakewood Community College
3401 Century Avenue
White Bear Lake, MN 55110
612-779-3200 (6000 students)

Minneapolis Community College
1501 Hennepin Av., 55403
612-411-7000 (4500 students)

Normandale Community College
9700 France Avenue South
Bloomington, MN 55431
612-832-6000 (8500 students)

North Hennepin Community College
7411-85th Avenue North
Brooklyn Park, MN 55445
612-493-0581 (6500 students)

NORTHWEST MINNESOTA

Brainerd Campus of Central Lakes College
501 W. College Dr., 56401
218-828-2525
1-800-933-0346 (1300 students)

Fergus Falls Community College
1414 College Way, 56537
218-739-7500 (1200 students)

Northland Community & Technical College
Highway 1 East
Trief River Falls, MN 56701
218-681-0701
1-800-959-6282 (1000 students)

Crookston University of Minnesota
Now has both 2-yr & 4-yr programs
Crookston, MN 56716
218-281-6510
1-800-232-6466 (1300 students)

NORTHEAST MINNESOTA

Fond du Lac Community College Campus of Mesabi Community College
2101 14th St.
Cloquet, Mn. 55720
1-800-879-0800
1-800-657-3712

Hibbing Community College
1515 East 25th Street, 55746
218-262-6700
1-800-224-4422 (700 students)

Itasca Community College
1851 East Highway 169
Grand Rapids, MN 55744
218-327-4460
1-800-996-6422 (1300 students)

Lake Superior College - East Campus
1309 Rice Lake Road
Duluth, MN 55811
218-723-4796 (700 students)

Mesabi Community College
1001 Chestnut St. W.
Virginia, MN 55792
218-749-7700
1-800-657-3860 (1300 students)

Rainy-River Community College
1501 Hwy 71
International Falls, MN 56649
218-285-7722
1-800-456-3996 (800 students)

Vermilion Community College
1900 E. Camp St.
Ely, MN 55731
218-365-7200
1-800-657-3608 (800 students)

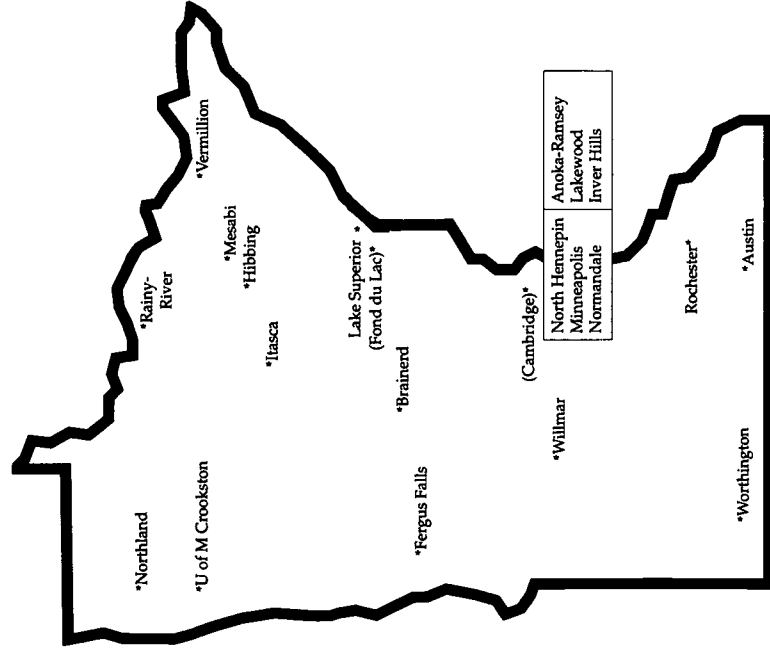
SOUTHERN MINNESOTA

Austin Community College
1600 NW 8th Av., 55912
507-433-0505
1-800-747-6941 (1300 students)

Rochester Community College
851 30th Av. SE, 55904-4999
507-285-7219 (4000 students)

Willmar Community College
Co. Rd. 24, P. O. Box 797, 56201
320-231-5199 (1400 students)

Worthington Community College
1450 College Way, 56187
507-372-2107
1-800-657-3966 (800 students)



BEST COPY AVAILABLE

PART I: FALL 1995 TECHNICAL COLLEGES AND

Use a ruler or a magic marker to help read this chart.
 See footnotes on the right side of the next page.
 X means that the course is offered at the school named at the top of the column.
 B means that both listed courses are offered.
 * means the school is in the Twin Cities area.

	Albert Lea Tech	Alexandria Tech	Anoka-Henn. Tech*	Austin Tech	Bemidji Tech	Braintree Tech	Canby Tech (SW)	Dakota County Tech*	Detroit Lakes Tech	Duluth-Lk. Superior	East Grand Fks. Tech	Eveleth Tech	Farbault Tech	Granite Falls (SW)	Henn.: Brooklyn Pk.*	Henn.: Eden Prairie*	Hibbing Tech	Hutchinson Tech	Jackson Tech (SW)	Mankato Tech	Minneapolis Tech*	Moorehead Tech	Northeast Metro Tech*	Pine Tech	Pipestone Tech (SW)	Red Wing Tech	Rochester Tech	St. Cloud Tech	St. Paul Tech*	Staples Tech	Thief River-Northland	Wadena Tech	Willmar Tech	Winona Tech				
MEDICAL																																						
Registered Nurse																																						
Licensed Practical Nurse																																						
Nurse Assistant																																						
Hosp. Unit Coordinator (Ward Clerk)																																						
Medical Assistant																																						
Physical Therapy Assistant																																						
Occupational Therapy Assistant																																						
Medical Laboratory Technician																																						
Radiology (X-Ray, Medical Imaging)																																						
Respiratory Tech (Breathing)																																						
Chiropractic Technician																																						
Surgical Technician																																						
Health Technologies - Specialized																																						
Dietetic Technician (Hosp. Food)																																						
Medical Secretary (S)/Med. Records (R)																																						
Dental Assisting																																						
Optical Occupations (Eye glasses)																																						
Accounting																																						
Bookkeeping / Accounting Clerk																																						
Microcomputer Specialist																																						
Secretary &/or Word Processing																																						
Business Management																																						
Management Fields - Specialized																																						
Banking & Finance & Credit																																						
Data Processing/Computer Progr./Oper.																																						
Data Entry (Computer keypunch)																																						
Receptionist/Office Assistant/Typing																																						
Real Estate & Property Sales/Mgmt																																						
Paralegal/Legal Assst(Pa) Legal Secretary(U)																																						
Retail Store Management / Merch.																																						
Clothing Store Management / Sales																																						
Retail Stores Mgmt. - Specialized																																						
Parts Sales & Service (Autos)																																						
Retail Store Salesperson																																						
Professional Sales Representative																																						
Sales Management																																						
Marketing (W) & Advertising (Y)																																						
Marketing / Trade - Specialized																																						
Hotel and Restaurant Management																																						
Travel Planner (K) / Aviation (J)																																						
Drafting: Mechn. (M) / Arch. (C)																																						
Printing, Graphic Communication																																						

TRAVEL & DINING

GRAPHICS ARTS

(see next 2 pages)



"Career" Programs Only. Does not include "non-career" majors. Also see the map and addresses on pages 62 & 63.
X means that the course is offered at the top.
B means both listed courses are offered.
***** means the school is in the Twin Cities

	Anoka-Ramsey *	Austin CC	Brainerd CC	Fergus Falls CC	Hibbing CC	Inver Hills CC *	Lakewood CC *	Mesabi CC	Minneapolis CC *	Normandale CC *	North Hennepin *	Norland CC	Rainy-River CC	Rochester CC	Vermilion CC	William CC	Workington CC	U of M, Crookston (C)	U of M, Cambridge (C)	Duluth (d), Fond du Lac (f)
Registered Nurse	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	cd	cd	f
Licensed Practical Nurse		X	X	X																
Nurse Assistant																				
Hosp Unit Coordinator (Ward Clerk)																				
Medical Assistant																				
Physical Therapy Assistant	X	X																		
Occupational Therapy Assistant	X	X																		
Medical Laboratory Technician																				
Radiology (XRay, Medical Imaging)																				
Respiratory Tech (Breathing)																				
Chiropractic Technician																				
Surgical Technician																				
Health Technologies - Specialized	1f		1g		1v	1w	1h													
Dietetic Technician (Hosp.Food)																				
Med.Secretary(S)/Med.Records(R)	B	S	1u		S	S	S													
Dental Assisting		X																		
Optical Occupations (Eye glasses)	X																			
Accounting	X	X	X																	
Bookkeeping/Accounting Clerk																				
Microcomputer Specialist	3d	X	X																	
Secretarial &/or Word Processing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Business Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Management Fields - Specialized	2c	2d	2p																	
Banking & Finance & Credit																				
Data Processing/Computer Prog./Oper																				
Data Entry (Computer keypunch)																				
Receptionist/Office Assistant/Type																				
Real Estate & Property Sales/Mgmt			3b																	
Paralegal/Legal Assst(Pa)	U	U	3j																	
Retail Store Management/Merch.																				
Clothing Store Management/Sales																				
Retail Stores Mgmt. - Specialized																				
Parts Sales & Service (Autos)			3w																	
Retail Store Salesperson																				
Professional Sales Representative																				
Sales Management																				
Marketing(W) & Advertising(Y)	W	W																		
Marketing/Trade - Specialized																				
Hotel and Restaurant Management																				
TravelPlanner(K) / Aviation(I)	6y	K																		
Drafting: Mechan.(M) / Arch.(C)	B	M																		
Printing, Graphic Communication																				

- X** means that the course is offered at the school named at the top.
B means that Both programs are offered.
- Health Technologies**
 1a EEG Technician
 1b Pharmacy Tech
 Emergency Med Tech
 Paramedicine
 Cardiovascular Tech
 Hospital supply tech (Central services)
 1c Nurse Assistant
 Home Health Aide
 1d "911" Communicator
 1e Pharmacy Tech & Dental Hygienist
 Dental Lab Tech & Orthotics/Prosthetic
 & Intensive Paramedic
 1f NeuroDiagnosticTech
 DiagnosticSonography
 1g Histology Tech
 1h Orthotics, Prosthetics, Paramedic, Pharmacy,
 Dental Hygiene
 1i Dental Hygiene
 1j Paramedic
 1k NoninvasiveCardiology
 1m Veterinary Tech & Medical Coding Spec.
 1n Equine Science
 Horse Care
 1p Central Services Tech, Med. Transcriptionist, Medical Coding Spec.
 1q NeuroDiagnosTech-Cam
 Diagn-Sonography-Cam
 Med secry-Dul,Cam
 Med records-Camb
 Dental Hygiene-Dulth
 1r Clinical Neurophysical
 Dental hygiene
 Paramedic Tech
 1s Medical Coding Spec.
 1t Veterinary Office Mgt.
 Habilitative Aide
 1u Medical Admn Secry
 1v HealthCareMid-Mgmt
 1w Dietary Manager
- Management Careers**
 2a Office Systems&Mgmt
 Hotel/Restamnt Mgmt
 Supervisory Mgmt
 Computer networking
 2b Aviation Administr.
 2c Golf Facilities Mgmt.
 OfficeSystemsMgmt.
 2d Supervisory Mgmt
- Other Office Careers**
 3a Postal Service
 911&Emerg Operator
 3b Personnel Assistant
 3c General Secretary & Desktop Publishing Sec.
 3d NetworkCommunicatn
 3e Appraiser
 3f Bank Teller
 3g Reception/Office Asst
 Personnel Asst.
 3h Micro&Mini computer programnr/operator
 Network Admn/Engr
 3i ComputrNetwrkAdmn
 3j Legal Admins. Secry
 3k InsuranceServiceAssoc
 3n Office Information Tech
Special Retail Mgmt.
 3w BothHortical.&Landscp.
 plus Floral Design & GreenHouseProduction
 3x Supermarket Mgmt.
 3y Retail Floral/Florist
 3z Visual Merchandising
- Special Marketing**
 6a World Trade Tech
 6b Telemarketing Mgmt
 6c Customer Serv. Tech
 6d Vehicle service advisor
 Electronics sales
 PhotographySalesServ
 Business service mktg
 World trade tech
 6e Business service mktg
 6f Call Center Sales Spec.
 6g Business service mktg
 6h Call Center Sales Spec.
 6i Casino Technician
 6k Electronic sales
Aviation
 6y Aviation & Air Traffic Control & Aircraft Dispatcher (also at CambridgeCC)
 6z Aircraft Dispatcher
 7b See footnote #7b, p. 67
 7c See footnote #8i, p. 67
 8b See footnote #8b, p. 67
- Both courses offered.**
C Architectural Drafting
I Electrical Drafting
J Aviation
K Travel Planner
M Mechanical Drafting
Pa Legal assnt. or Paralegal
R Medical Records
S Medical Secretary
U Legal secretary
W Marketing
Y Advertising
Z Business Mgmt, plus Small Business
z Development Center
 Development Center
 Development Center
 (No Degree awarded)
- CommunityCollegeCenters**
c CambridgeCC Center
d DuluthCommColCenter
f Fond du LacCC Center

Career Programs Only. Does not include *non-career* majors. Also see the map and addresses on pages 62 & 63.
X means that the course is offered at the school named at the top.
B means both listed courses are offered.
***** means the school is in the Twin Cities

	Anoka-Ramsey *	Austin CC	Brainerd CC	Fergus Falls CC	Hibbing CC	Inver Hills CC *	Itasca CC	Lakewood CC *	Mesabi CC	Minneapolis CC *	Normandale CC *	North Hennepin *	Northland CC	Rainy-River CC	Rochester CC	Vermilion CC	Willmar CC	Worthington CC	U of M, Crookston	CC Centers: Cambridge (c), Duluth (d), Fond du Lac (f)
Commercial Art & Design	X											X								
Photography / Photo Technology																				
Radio / TV Broadcasting Technician	X	7d											X							
Video & Audio Production / Technol.	X								7f											
Interior Design & Sales																				
(T)ruck/Driver/(G)Truck/Mechanic																				
Auto(A) or Diesel(D) Mechanics	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C
Auto Body Repair																				
Mechanic(E)Heavy Equip / (V)Aviation																				
Small Engine Repair																				
Engineering Technician																				
Electronics / Electrical Tech																				
Biomedical Equipment Tech																				
Fluid Power Technology / Hydraulics																				
Manufacturing Technicians																				
Civil / Highway Tech / Surveying																				
Telephone / Communications Tech																				
Lab Tech: Chem(Q) / Environmt(N)																				
Industrial or Building Mechanics																				
Heating and Cooling Mechanics	X																			
Major Appliance Repair																				
Repair Occupations - Specialized																				
Machine Tool																				
Welding																				
Carpentry																				
Electrician																				
Plumbing																				
Other Construction Trades																				
Child Development & Care																				
Recreation																				
Human Services																				
Law Enforcemt(P) / Fire Protectn(F)	X																			
Agribusiness: Farm Supplies / Equip.																				
Farm Production / Farm Management	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Farm Equipment Mechanics																				
Meatcutting / Sausagemaking																				
Horticulture(H) / Landscaping(L)																				
Forest & Natural Resources																				
Clothing Services / Tailoring / Mending																				
Hair Design / Hair Cutting																				
Food Service / Cook / Chef																				
Custodial Services																				

X means the course is offered at named school
B means that **Both** programs are offered.
 1w Dietary Manager
 3a Postal Service
 3w Both plus Floral
 Design & Green House
 Retail Florist/Florist
 Visual Merchandising
 Interior Design Sales

Manufacturing Techs
 4a Optical Technician
 4b Automated Control Tech
 Optical Lens Making
 Computer Manufacturing
 Laser Technology
 Plastics Technology
 CNC mach programmer
 Artificial Intelligence
 Metallurgical Tech
 Metrology(qual.control)
 NonDestructive Testing
 Industrial Manuf. Tech
 Robotics Tech or Automated Manufact.
 Quality Control Tech
 Research & Develop Tech
 Composites (plastics)
 Civil-Cambridg, Duluth
 Graphic Drafting-Dul
 Gunsmithing & Lock-smithing-also at CambCC
 Mechanical Drafting
 Computerized Mapping
 Powder Metal Tech
 Manuf. Engineer Tech
 Manuf Engineer Tech
 Robotics Tech
 Automated Manuf. Tech
 System Control Tech
 Instrumentation Tech
Electronics Techs
 5a Avionics
 5b Electronics Tech & Electrical Technology
 5c Electronic Business Mach.
 5d Microcomputer Tech
 5e Computer Tech
 5f Cable TV Tech & Telecommunications
 & Telephone Service
 5g Mobile Communications
 5h Telecommunications
 5i Electromechanical tech
Laboratory Techs
 5k Lab Tech: Food Science
 Environmental Tech
 5m Water/Waste Treatment
 5n Water Resources
 Waste Management

Other Technicians
 5p Mech. Engineer Tech
 Electronic Engr. Tech
 Civil Engineer Tech
 5q Taxidermy Technician
 5r Hazardous materials
 5s Mech. Engineer Tech
 5t Wind Energy Tech

Graphics & Media
 7a Technical Art/Illustrn.
 7b Commercial Art
 Printing
 Electronic Publishing plus Color Prepress
 atHenn.: Brook. Park
 7c Neon Sign Fabricating
 Sign Lettering Design
 7d Radio Broadcast only
 7e Commer. Art & Design
 Electronic publishing
 7f Video. Also Film Making
 7g Electronic communication
 7h Digital Photo Imaging
 7i Multimedia Tech

Repair Trades
 8a Upholstery
 8b Upholstery
 Jewelry Manuf./Repair
 Musical Instrument Repair:
 1) Strings 2) Electronic
 3) Band 4) Guitar
 8d Electric Motor Repair
 8e Watch & Clock Repair
 8f Auto Machinist & Auto Mechanics
 8g Auto Industrial Mech
 Ag Diesel Mechanic
 8h Auto Machinist & Auto Mechanic
 8i Collision appraisal & Claims adjusting
 Auto service advisor
 8j Outdoor Power
 Recreational Vehicles
 8k Small Engine/Mechanic
 Marine Engine Tech
 8m Marine/Motor Tech

Construction
 8n Power Line Tech
 Electric Utilities Tech
 8p Wood Finishing
 Electrical Lineworker
 8q Painting/Decorating
 Cabinetmaking
 8r Bricklaying
 Cabinetmaking
 8t Cabinetmaking
 8u Painting/Decorating
 Cabinetmaking
 Sheet Metal
 Pipefitting

8v Building Inspection
 8w Woodfinishing
 8x Electrical Line Tech
 8y Heavy Equipment Construction Mgmt.

Human Service
 9a Sign Language Interpreter /transliter.
 9b Educational Asst.
 Activity Director-Seniors
 In-Home Care
 9c Professional Nanny
 9d Human Services
 Chemical dependency
 9e Human services
 Sign Lang. Interpreter
 9f Fire protection-Duluth
 Law Enforcement -Fond
 Family Service Finance
 Assistant-Cambridge
 9g FamServFinancial/Asst.
 9f FamServFinancial/Asst.
 Paraprof. Social Wrkr.
 9k Habitative Aide & HumanDevlpmt Asst

Agriculture
 9m Landscape, & Horticulture, & Golf Course Maint. & Turf Management
 9n Aquaculture & Farm Management
 9p Agronomy/Soils & Animal/Dairy Science
 9q Also Swine Prod. Mgt.
 9r Parks and Recreation
 Seasonal Park Ranger
 Wilderness Management
 9s Soil & Water Conservatn.

Personal Service
 9w Barber & Cosmetology
 9x FoodService Mgmt
 9y Cosmetology & Manicurist
 9z Building Services Tech
 A Auto Mechanics
 B Both courses offered.
 D Diesel Mechanics
 E Heavy Equip./Mechanic
 F Fire Protection
 G Truck Mechanics
 H Horticulture
 L Landscaping
 N Environmental Lab/Tech
 O Heavy Equip Operator
 P Law Enforcement
 Q Chemical Tech, or Industrial Lab Tech
 T Truck Driver
 V Aviation Mechanic
Community/College Centers
 c Cambridge CC Center
 d DuluthCommColCenter
 f Fond du LacCC Center

Want to attract an employer's attention?

Update your skills with coursework.

Unfortunately, if you're out of work, that's easy to say, not so easy to do. You probably don't have the luxury to spend months or years in full-time training. An alternative is to obtain short-term or part-time training which may enhance your attractiveness to possible employers. Short-term training will probably not, in and of itself, result in a new career, but it's a way to add skills that are in demand to your resume'. A multitude of short training programs are available, many of them dealing with the

use of personal computers.

On this page and the following pages, *Focus* has listed the following types of short-term training:

- SHORT-TERM PERSONAL COMPUTER (PC) TRAINING
- SHORT-TERM TRAINING FOR COMPUTER PROFESSIONALS
- OTHER SHORT-TERM TRAINING (NON-COMPUTER) CUSTOMIZED TRAINING
- COMMUNITY EDUCATION
- FOUR-YEAR COLLEGES WITH SHORT-TERM TRAINING

Note: Inclusion on this list is not an endorsement of any particular training program — if we discovered that a program existed we included it. And, con-

versely, exclusion from this list does not imply any judgement on our part. Our intention was to start a listing of short-term training possibilities, in response to a request from dislocated worker counselors to do so. We hope it's useful.

The creators of this list do not pretend that it is comprehensive and, due to staff limitations, know that it may include some inaccuracies. We'd appreciate if readers will contact us to tell us of any inaccuracies or additions.

Our thanks to Louis Huether and the Employment Action Center for the basis of this list and much of its content.

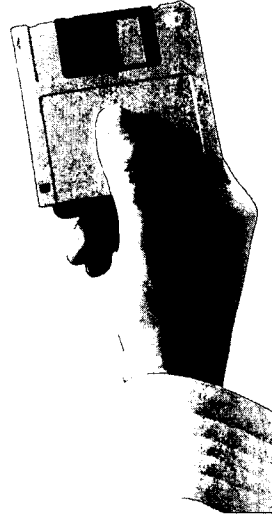
SHORT-TERM PERSONAL COMPUTER (PC) TRAINING

COMPUTER ADMINISTRATIVE SUPPORT

(Examples: MS/Project, MS/Schedule)
 Advantage: User 561-3393 Brooklyn Park
 Ameridata 290-4300 St. Paul
 Benchmark 896-6800 Edina
 Catapult Software 920-0016 Edina
 Copeland Buhl and Co. 473-0273 Wayzata
 ExecuTrain 921-8844 Bloomington
 Firststaff 893-7555 Bloomington
 Firststaff 371-8245 Mpls.
 Firststaff 223-5528 St. Paul
 Inacomp 828-6723 Eden Prairie
 Institute for Adv. Technology 831-9257 Edina
 Key Educational Services 545-8319 Golden Valley
 Micro Knowledge 560-9733 BrklynPark/Mtnka
 OPM 946-1100 Eden Prairie
 Productivity Point Internatl. 884-0710 Bloomington
 St. Thomas Mgmt Center Mpls. 962-4600, 1-800-328-6819 ext 2-4600

COMPUTER-AIDED DESIGN

(Examples: AutoCad, Pro/Engineer)
 Anoka-Hennepin Tech Coll. 427-8359 Anoka
 CentralLakesCollege-Staples 218-894-3726 1-800-247-6836
 Dakota County Tech College 423-8470 Rosemount
 Data Source 844-1400 Edina
 Digital Resources 885-0116 Bloomington



Dunwoody Institute 374-5800 Minneapolis
 Hennepin TC - Brooklyn Pk. 425-3800 1-800-345-4655
 Hennepin TC - Eden Prairie 944-2222 1-800-345-4655
 Minneapolis Rehab Center 879-5435 Minneapolis
 Northland—Thief River Falls 218-681-0793 1-800-959-6282
 Northwest Technical Institute 944-0080 Eden Prairie
 Northwestern College 631-5100 St. Paul
 Parametric Technology Inc. 449-5232 Minnetonka
 Pine Tech College, Pine City 629-6764 1-800-521-7463
 Rand Technology 935-6898 Minnetonka
 Red Wing Technical College 338-8271 1-800-657-4849
 St. Paul Technical College 228-4306 St. Paul
 Tech Central 921-3380 Edina

COMPUTER DATABASE MANAGER

(Examples: dBASE 3+ or 4, Access, Paradox, FoxPro)
 Advantage: User 561-3393 Brooklyn Park
 Albert Lea PIC Office 507-373-4398
 Albert Lea Technical College 507-373-0656, 1-800-333-2584
 Alternative Training Solutions 434-8311 Andover
 Alto Consulting and Training 942-9101 Mpls.
 Ameridata 290-4300 St. Paul
 American Indian OIC School 341-3358 Mpls.
 Anoka-Hennepin Tech College 427-8359 Anoka
 Anoka-Ramsey CC 422-3303 Coon Rapids
 Application Developers Traing 943-1363 Mpls.
 Augsburg Weekend College 330-1743 Minneapolis
 Bridge Data 933-3336 Minnetonka
 Catapult Software 920-2657 Edina
 CentralLakesColl.-Brain.Tech 218-828-5344 1-800-247-2574
 Computer City Supercenter 896-6484 Edina
 Computer Learning Center 639-6227 New Brighton
 Computer Skills Inst. 644-7880 St. Paul
 Computer Training Internatl. 378-0665 Mpls.
 Computer U 641-0744 St. Paul
 Computers Don't Byte 218-722-5051 Duluth
 Connect Education Services 947-43820 Eden Prairie
 Dakota County Tech College 423-8254 Rosemount
 Data Source 844-1437 Edina
 Davis Thomas Assoc. 591-6122 Minneapolis

pp Computer Trainers	721-4134	Mpls.
Johnson Center	624-2713	St. Paul
Electronic Easel	659-2444	St. Paul
ExecuTrain	921-8844	Bloomington
ExpertEase Software Training	551-9778	Plymouth
Firststaff	893-7555	Bloomington
Firststaff	371-8245	Mpls.
Firststaff	223-5528	St. Paul
Hagen Micro Age	866-3441	Richfield
Heglund's PC Services	780-4027	Lexington
Hennepin TC - Eden Prairie	944-2222	1-800-345-4655
Honeywell Adult Education	951-0004	Mpls
Henn.Tech (Customized Tr.)	944-2222 X3513	Eden Prairie
Hopkins Community Ed	988-4072	Eisenhower CC
HRD Resource Group	690-5458	St. Paul
Hutchinson Tech College	320-587-3636	1-800-222-4424
Inacom	828-6723	Eden Prairie
Institute for Adv. Technology	831-9257	Edina
Inver Hills Comm. College	450-8500	InverGroveHts
Key Educational Services	545-8319	Golden Valley
KRS Computer	938-8823	St. Louis Park
Lakewood Comm. College	779-3200	White Bear Lk.
Mankato Technical College	507-389-7200	1-800-722-9359
Manpower Training Dept.	375-0240	Mpls.
Marco Business Products	612-259-3000	St. Cloud
Metro II	686-6800	Mendota Hgts
Metro State Univ.Mpls/StPaul	772-7611 or 341-7234	
Micro Knowledge	560-9733	BrookPk-Mnka
Minneapolis Tech College	370-9400	Mpls.
Nordberg Consulting	937-0426	Eden Prairie
Normandale Comm. College	832-6320	Bloomington
NorthHennCC Mgmt Institut.	424-0880	Brooklyn Park
North Henn. Comm. College	424-0702	Brooklyn Park
Northeast Metro TechCollege	779-5828	White Bear Lk
Northland—Thief River Falls	218-681-0793	1-800-959-6282
Office Information Systems	884-9199	Bloomington
OPM	946-1100	Eden Prairie
PC Support center	334-3242	Minneapolis
Premier	831-2960	Edina
Productivity Point Internat.	884-0710	Bloomington
Red Wing Technical College	338-8271	1-800-657-4849
Resolution	628-9844	Roseville
St Catherine's Weekend Coll.	690-6542	St. Paul
St. Paul Technical College	228-4306	St. Paul
Science Museum	221-4722	St. Paul
Small Business Assistants	891-3224	Apple Valley
Teamsters Service Bureau	221-1365	St. Paul
Technology Learning Center	297-5549	St. Paul
UMD Cont Ed & Extension	218-726-8113	Duluth

—continued on next page—

PERSONAL COMPUTER SKILLS

69



If you're a job-seeker looking for office work at any level—manager, professional, clerical—then it is nearly essential to make sure that your skills on personal computers (PC's) are current, if you are to be competitive in the job market.

You do not need to learn to be a computer programmer.

You do not need to be a computer whiz.

But it's likely that you *do* need to:

◆ be able to navigate yourself through an office computer system (Windows 95 and future versions of Windows, like it or not, will probably be the standard systems for several years).

◆ be somewhat proficient at typing—lack of this skill will limit your speed and effectiveness and your capacity for further computer use. The inability to type will also frustrate you in your efforts to update your computer skills.

◆ be proficient in at least one but preferably three or four computer applications, such as word processing, databases, spreadsheets, networks, and desktop publishing.

◆ understand the functions & value of word processing, databases, spreadsheets, networks, etc.

◆ have at least some familiarity with equipment and its potential value: printers, scanners, CD-ROM drives, fax modems, etc.

◆ be active and very flexible about obtaining new personal computer skills, taking advantage of opportunities to get retraining.

Many office workers who are seeking new employment can improve their appeal to new employers by picking up computer skills, whether the skills be word processing (computerized typing) or spreadsheets (numerical calculations) or databases (data storage & retrieval systems). In fact, much of the short-term training available involves computers, ranging from the above to network management and programming languages.

Almost all public technical and community colleges offer computer classes of varying levels and breadth. Contact the schools for class offerings—phone numbers and addresses, pp.62-63.

4-YEAR COLLEGES WITH

SHORT TERM TRAINING

UNIVERSITY OF MINNESOTA	625-3333	UNIVERSITY OF MINNESOTA - ST.PAUL	Adult Learning
—Continuing Education & Extension		—Degree Completion Program	641-8863
ST. CLOUD STATE UNIVERSITY	320-255-3081	UNIVERSITY OF MINNESOTA - DULUTH	—Continuing Education
—Continuing Education	690-6542		218-726-8113
BETHEL COLLEGE	635-8000	UNIVERSITY OF MINNESOTA - MORRIS	—Continuing Education
—PACE Program for Adult College Education		—Continuing Education	1-800-842-0030
NORTHWESTERN COLLEGE	631-5494	MPLS. COLLEGE OF ART AND DESIGN	—Continuing Education
—Distance Education Program		—Continuing Education	874-3760

UPDATE YOUR PERSONAL COMPUTER SKILLS. LOOK BETTER IN THE JOB MARKET.

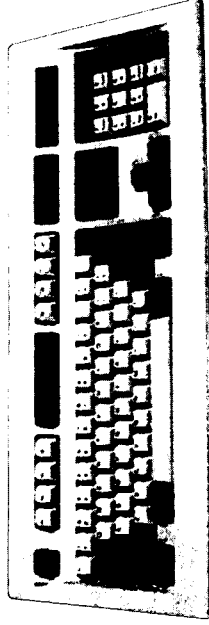
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COMPUTER INTEGRATED SOFTWARE

(Examples: MS/Office, MS/Works)

Alto Consulting and Training 942-9101 Mpls.
 Anoka-Hennepin Tech College 427-8359 Anoka
 Anoka-Ramsey CC 422-3303 Coon Rapids
 Avastar 884-5377 Bloomington
 Catapult Software 920-0016 Edina
 CentraillakesColl.-Brain.Tech 218-828-5344 1-800-247-2574
 Computer C.A.T. 871-4306 Mpls.
 Computers Don't Byte 218-722-5051 Duluth
 Dakota County Tech College 423-8254 Rosemount
 Desktop Computer Trainers 721-4134 Mpls.
 Edina Comm. Education 220-4644 Edina
 ExecuTrain 921-8844 Bloomington
 Hagen Micro Age 866-3441 Richfield
 Hennepin TC - Brooklyn Pk 425-3800 1-800-345-4655
 Hennepin TC - Eden Prairie 944-2222 1-800-345-4655
 Inacom 828-6723 Eden Prairie
 Inver Hills Comm. College 450-8500 Inver Grove Ht
 Itasca CC - Grand Rapids 218-327-4460 1-800-996-6422
 Lakewood Comm. College 779-3200 White Bear Lk
 Mankato Technical College 507-389-7200 1-800-722-9359
 Marco Business Products 320-259-3000 St. Cloud
 North HennCC MgmtInstit. 424-0880 Brooklyn Park
 Northeast Metro Tech College 779-5828 White Bear Lk
 Productivity Point Internatl. 884-0710 Bloomington
 Red Wing Technical College 338-8271 1-800-657-4849

Micro Knowledge 560-9733
 Minneapolis College of Art & Design 874-3765
 Minneapolis Rehab Center 879-5435 Mpls.
 Minneapolis Tech College 370-9400 Mpls.
 Minneapolis Advancement Corp. 714-754-7110 California
 National Comm. College 832-6320 Bloomington
 North HennCC MgmtInstit. 424-0880 Brooklyn Park
 North Hennepin Comm. Coll. 424-0702 Brooklyn Park
 Northeast Metro Tech College 779-5828 White Bear Lk.
 Open U, Inc. 349-9273 Minneapolis
 OPM 946-1100 Eden Prairie
 Pacer Computer (disabilities) 827-2966 Mpls.
 Premier 831-2960 Edina
 Productivity Point 341-0750 Minneapolis
 Productivity Point 884-0710 Bloomington
 Rand Technologies 935-6898 Minnetonka
 Rasmussen—Eagan 612-687-9000 1-800-852-6367
 Red Wing Technical College 338-8271 1-800-657-4849
 St Catherine's Weekend Coll. 690-6542 St. Paul
 St. Paul ITC/Teamsters Service 228-4325 St. Paul
 St. Paul Technical College 228-4306 St. Paul
 Science Museum 221-4722 St. Paul
 Teamsters Service Bureau 221-1365 St. Paul
 Technology Learning Center 297-5549 St. Paul

CDI Computer Academy 851-0066 Bloomington
 CentraillakesColl.-Brain.Tech 218-828-5344 1-800-247-2574
 Central Lakes Coll. -Staples 218-894-3726 1-800-247-6836
 CompuConnect 507-388-7121 Mankato
 Computer Knowledge 507-537-9554 Marshall
 Computer Skills Inst. 644-7880 St. Paul
 Computers Don't Byte 218-722-5051 Duluth
 Courseware Development 824-6099 Mpls.
 Dakota County Tech College 423-8254 Rosemount
 Detroit Lakes Tech College 218-847-1341 1-800-492-4836
 District 742 Comm. Ed 612-251-1733 St. Cloud
 Duluth Business University 218-722-3361 Duluth
 Earle Brown Continuing Ed 624-2713 St. Paul
 EastGrandForks TechCollege 218-773-3441 1-800-451-3441
 Electronic Easel 659-2444 St. Paul
 Eveleth Technical College 218-744-3302 1-800-345-2884
 ExecuTrain 921-8844 Bloomington
 Firststaff 893-7555 Bloomington
 Firststaff 371-8245 Mpls.
 Firststaff 223-5528 St. Paul
 Fond du Lac Comm. Col.Ctr 218-879-0800 1-800-657-3712
 Granite Falls Tech College 320-564-4511 1-800-657-3247
 Hennepin TC-Brooklyn Park 425-3800 1-800-345-4655
 Hennepin TC - Eden Prairie 944-2222 1-800-345-4655
 Hibbing Comm. College 218-262-6700 1-800-224-4422
 Honeywell Adult Education 951-0004 Minneapolis
 HennITC-(Customized Itrain.) 944-2222 Ext: 3513 Eden Pr.
 Hutchinson Tech College 320-587-3636 1-800-222-4424
 Inver Hills Comm. College 450-8500 InverGroveHts.
 ItascaCommColl. GrandRdps 218-327-4460 1-800-996-6422
 Jackson Technical College 507-847-3320 1-800-658-2522
 Key Educational Services 545-8319 Golden Valley
 KRS Computer 938-8823 St. Louis Park
 Lake Superior Coll., Duluth 218-722-2801 1-800-432-2884
 Lakewood Comm. College 779-3200 White Bear Lk.
 Mankato Technical College 507-389-7200 1-800-722-9359
 Manpower Training Dept. 375-0240 Mpls.
 Marco Business Products 320-259-3000 St. Cloud
 Metro StateUnivMpls/StPaul 772-7611 or 341-7234
 Micro Knowledge 560-9733 BrookPk-Mtnka
 Moorhead Technical College 218-299-6512 1-800-426-5603
 Normandale Comm. College 832-6320 Bloomington
 North HennCC MgmtInstit. 424-0880 Brooklyn Park
 North Henn Comm. College 424-0702 Brooklyn Park
 Northeast Metro Tech College 779-5828 White Bear Lk.
 Open U, Inc. 349-9273 Minneapolis
 OPM 946-1100 Eden Prairie
 Pine Tech, Pine City 629-6764 1-800-521-7463



COMPUTERS, INTRODUCTION TO.

PLUS WORD PROCESSING & SPREADSHEETS)

Albert Lea PIC Office 507-373-4398 Albert Lea
 Albert Lea Technical College 507-373-0656 1-800-333-2584
 Anoka-Hennepin Tech College 427-8359 Anoka
 Anoka-Ramsey CC 422-3303 Coon Rapids
 Augsburg Weekend College 330-1743 Minneapolis
 Austin Comm. College 507-433-0505, 1-800-747-6941
 Bemidji Technical College 218-755-2233 1-800-942-8324
 Cambridge College Center 612-689-7000 Cambridge

COMPUTERS, INTRODUCTORY: PCS, KEYBOARDING

Alternative Training Solutions 434-8311 Andover
 Austin Technical College 507-433-0600 1-800-247-5039
 COMPUSA 635-4050 Roseville
 Courage Center (disabilities) 520-0528 Golden Valley
 Courseware Development 824-6099 Mpls.
 Custom Training 788-3188 Columbia Hgts
 Digital Resource 885-0116 Bloomington
 Hire Dynamics 786-7479 Coon Rapids
 Index Computers 447-1040 Prior Lake
 Institute for Adv. Technology 831-9257 Edina
 Inver Hills Comm College 450-8500 Inver Grove Ht
 ItascaCommCol, GrandRdps 218-327-4460 1-800-996-6422
 Key Educational Services 545-8319 Golden Valley
 KRS Computer 938-8823 St. Louis Park
 Lake Superior College Duluth 218-722-2801 1-800-432-2884
 Lakewood Comm. College 779-3200 White Bear Lk
 Marco Business Products 320-259-3000 St. Cloud

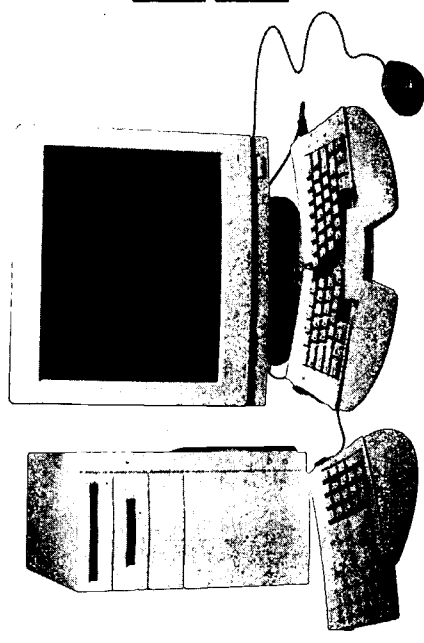
MPUTERS, INTRO—continued from previous page—
 tone Technical College 507-825-5471 1-800-657-2330
 tier Computer Ed. Inc 831-2960 Edina
 Productivity Point 844-0710 Bloomington
 Rainy River CC, Intl Falls 218-285-7722 1-800-456-3996
 Red Wing Technical College 338-8271 1-800-657-4849
 Rochester Comm. College 507-285-7219 Rochester
 Science Museum 221-4722 St. Paul
 St Catherine's Weekend Coll. 690-6542 St. Paul
 St. Cloud Technical College 320-654-5089 1-800-222-1009
 St. LouisPark CommunityEd 928-6419 St. Louis Park
 St. Paul Technical College 228-4306 St. Paul
 Teamsters Service Bureau 221-1365 St. Paul
 Technology Learning Center 297-5549 St. Paul
 UMD Cont Ed & Extension 218-726-8113 Duluth
 Up & RunningComputerServ 699-4307 St. Paul
 Vermilion Comm. College 218-365-7200 1-800-657-3608
 Willmar Technical College 320-235-5114 1-800-722-1151
 Winona Technical College 507-454-4600 1-800-372-8164

COMPUTER OPERATING SYSTEMS

(Examples: Windows, DOS, Macintosh or Unix)
 Albert Lea PIC Office 507-373-4398
 Albert Lea Technical College 507-373-0656 1-800-333-2584
 AlternativeTrainingSolutions 434-8311 Andover
 American Institute ofBanking 338-7851 Mpls.
 Ameridata 290-4300 St. Paul
 Anoka-HennepinTechCollege 427-8359 Anoka
 Anoka-Ramsey CC 422-3303 Coon Rapids
 Augsburg Weekend College 330-1743 Minneapolis
 Bridge Data 933-3336 Minnetonka
 Cambridge College Center 612-689-7000 Cambridge
 Catapult Software 920-2657 Edina
 CDI Computer Academy 851-0066 Bloomington
 Central Lakes Coll.-Brainerd 218-828-5344 1-800-247-2574
 CentralLakesCollege-Staples 218-894-3726 1-800-247-6836
 CompuConnect 507-388-7121 Mankato
 Computer City Supercenter 896-6484 Edina
 Computer Knowledge 507-537-9554 Marshall
 Computer Skills Inst. 644-7880 St. Paul
 Creative Training Assoc. 934-3692 Chanhassen
 Dakota County Tech College 423-8254 Rosemount
 Dakota Cty TC CustomTrain. 423-8470 Rosemount
 Data Source 844-1437 Edina
 DTA Training Services 591-6155 Minneapolis
 Dunwoody Institute 374-5800 Minneapolis
 Earle Brown Center 624-2713 St. Paul
 Edina Comm. Education 220-4644 Edina
 Electronic Easel 659-2444 St. Paul
 Euler Training Center 525-8915 Minneapolis
 ExecuTrain 921-8844 Bloomington

893-7555 Bloomington
 Firststaff 371-8245 Mpls.
 Firststaff 223-5528 St. Paul
 Firststaff 374-8000 Minneapolis
 Firsttech Computer Training 866-3441 Richfield
 Hagen Micro Age 1-800-345-4655
 Hennepin TC - Brooklyn Pk 425-3800 1-800-345-4655
 Hennepin TC - Eden Prairie 944-2222 1-800-345-4655
 Hibbing Comm. College 218-262-6700 1-800-224-4422
 Honeywell Adult Education 951-0004 Mpls
 Henn. Tech-CustomizedTrain. 944-2222 X 3513 Eden Prairie
 Inacom 828-6723 Eden Prairie
 Infinite Technologies 891-3171 Burnsville
 Institute for Adv. Technology 831-9257 Edina
 Inver Hills Comm. College 450-8500 InverGroveHts.
 ItascaCommColl. GrandRpds 218-327-4460 1-800-996-6422
 Key Educational Services 545-8319 Golden Valley
 KRS Computer 938-8823 St. Louis Park
 LakeSuperiorCollege-Duluth 218-722-2801 1-800-432-2884
 Lakewood Comm. College 779-3200 White Bear Lk
 Mankato Technical College 507-389-7200 1-800-722-9359
 Manpower Training Dept. 375-0240 Mpls
 Metro StateUniv.Mpls/StPaul 772-7611 or 341-7234
 Micro Knowledge 560-9733 BrookPk-Mtnka
 Normandale Comm. College 832-6320 Bloomington
 North HennCCMgmtInstit. 424-0880 Bloomington Park
 Northeast Metro TechCollege 779-5828 White Bear Lk
 Northland—Thief River Falls 218-681-0793 1-800-959-6282
 Office Information Systems 884-9199 Minneapolis
 Open U, Inc. 349-9273 Minneapolis
 OPM 946-1100 Eden Prairie
 Premier 831-2960 Edina
 Productivity Point Internatl. 884-0710 Bloomington
 Red Wing Tech 338-8271 1-800-657-4849
 Resolution 628-9844 Roseville
 St. Paul Science Museum 221-4722 St. Paul
 St. Paul Technical College 228-4306 St. Paul
 Science Museum 221-4722 St. Paul
 Small Business Assistants 891-3234 Apple Valley
 Teamsters Service Bureau 221-1365 St. Paul
 Technology Learning Center 297-5549 St. Paul
 UMD Cont Ed & Extension 218-726-8113 Duluth
 Valley Micro Assoc. 858-1120 Mpls.
 Worthington Comm. College 507-657-3966 1-800-657-3966

COMPUTER PUBLISHING/GRAPHICS (Examples: Pagemaker, QuarkXPress, Illustrator, Powerpoint)
 Advantage: User 561-3393 Brooklyn Park
 Ameridata 290-4300 St. Paul
 Anoka-HennepinTechCollege 427-8359 Anoka
 Catapult Software 920-0016 Edina
 Central Lakes Coll.-Brainerd 218-828-5344, 1-800-247-2574



STILL MORE PC TRAINING

ITER SPREADSHEET (Examples: MS Excel, Lotus)
 Advantage: User 561-3393 Brooklyn Park
 Alternative Training Solutions 434-8311 Andover
 Alto Consulting and Training 942-9101 Mpls.
 American Indian OIC School 341-3358 Mpls.
 American Institute of Banking 338-7851 Mpls.
 Ameridata 290-4300 St. Paul
 Bridge Data 933-3336 Minnetonka
 Catapult Software 920-2657 Edina
 Computer C.A.I. 871-4306 Mpls.
 Computer City Supercenter 896-6484 Edina
 Computer Training Center 639-6227 New Brighton
 Computer Training Internat. 378-0665 Mpls.
 Connect Education Services 947-43820 Eden Prairie
 Data Source 844-1437 Edina
 Edina Comm. Education 220-4644 Edina
 ExpertEase Software Training 551-9778 Plymouth
 Hagen Micro Age 866-3441 Richfield
 Heglund's PC Services 780-4027 Lexington
 Hopkins Community Ed 988-4072 Eden Prairie
 Inacom 828-6723 Mpls.
 Manpower Training Dept. 375-0240 Mpls.
 Metro II 686-6800 Mendota Hgts
 Minneapolis Tech College 370-9400 Mpls.
 PC Support Center 334-3242 Minneapolis
 Nordberg Consulting 937-0426 Eden Prairie
 Northland—Thief River Falls 218-681-0793 1-800-959-6282
 Resolution 628-9844 Roseville
 Small Business Assistants 891-3234 Apple Valley
 St. Louis Park Community Ed 928-6419 St. Louis Park
 Worthington Comm. College 507-657-3966 1-800-657-3966

Medical
Careers

Office
Careers

Technical

Precision
Machine

Sales
Careers

Computer
Careers

Short
Training

Hagen Micro Age 866-3441 Richfield
 Heglund's PC Services 780-4027 Lexington
 Hopkins Community Ed 988-4072 Eden Prairie
 Inacom 828-6723 Edina
 Institute for Adv. Technology 831-9257 Mpls.
 Manpower Training Dept. 375-0240 Mendota Hgts
 Metro II 686-6800 Mpls.
 Minneapolis Tech College 370-9400 Mpls.
 Northland—Thief River Falls 218-681-0793 1-800-959-6282
 Nordberg Consulting 937-0426 Eden Prairie
 Resolution 628-9844 Roseville
 Small Business Assistants 891-3234 Apple Valley
 St. Louis Park Community Ed 928-6419 St. Louis Park
 Worthington Comm. College 507-657-3966 1-800-657-3966

SHORT-TERM TRAINING FOR COMPUTER PROFESSIONALS

COMPUTER NETWORK MANAGEMENT

Ameridata 290-4300 St. Paul
 Anoka-Hennepin Tech College 427-8359 Anoka
 Anoka-Ramsey CC 422-3303 Coon Rapids
 Augsburg Weekend College 330-1743 Minneapolis
 Benchmark Computer 896-6800 Edina
 Bridge Data 933-3336 Minnetonka
 Brown Institute, NEC 721-2481 Mpls.
 CDI Computer Academy 851-0066 Bloomington
 Connect Computer 944-0181 Eden Prairie
 Dakota County Tech College 423-8470 Rosemount
 Data Source 844-1437 Edina
 ExecuTrain 921-8844 Bloomington
 Hennepin TC - Brooklyn Pk 425-3800 1-800-345-4655
 Hutchinson Tech College 320-587-3636 1-800-222-4424
 Inacom 828-6723 Eden Prairie
 Inver Hills Comm. College 450-8500 Inver Grove Hts.
 Lakewood Comm. College 779-3200 White Bear Lk
 Metro State Univ. Mpls-St Paul 772-7611 or 341-7234
 NEI 781-4881 Columbia Hgts
 Normandale Comm. College 832-6320 Bloomington
 North Henn CC Mgmt Institut. 424-0880 Brooklyn Park
 Northeast Metro Tech College 779-5828 White Bear Lk
 Novell Inc. 892-2922 Minnetonka
 Open U, Inc. 349-9273 Minneapolis
 Productivity Point Internat. 884-0710 Bloomington
 Prof. Computer Dev. Corp. 933-6893 Minnetonka
 Science Museum 221-4722 St. Paul
 St. Paul Tech College 228-4308 St. Paul
 Technology Learning Center 297-5549 St. Paul
 St. Thomas Mgmt Center Mpls. 962-4600, 1-800-328-6819 ext 2-4600

COMPUTER WORD PROCESSING (Exmpls: Word, WordPerfect)

Advantage: User 561-3393 Brooklyn Park
 Alternative Training Solutions 434-8311 Andover
 Alto Consulting and Training 942-9101 Mpls.
 American Indian OIC School 341-3358 Mpls.
 American Institute of Banking 338-7851 Mpls.
 Ameridata 290-4300 St. Paul
 Austin Technical College 507-433-0600 1-800-247-5039
 Bridge Data 933-3336 Minnetonka
 CMEF Services 872-1740 Mpls.
 Catapult Software 920-2657 Edina
 Computer C.A.I. 871-4306 Mpls.
 Computer City Supercenter 896-6484 Edina
 Computer Learning Center 639-6227 New Brighton
 Computer Training Internat. 378-0665 Mpls.
 Connect Education Services 947-43820 Eden Prairie
 Data Source 844-1437 Edina
 Edina Comm. Education 220-4644 Edina
 ExpertEase Software Training 551-9778 Plymouth

COMPUTER PROGRAMMING LANGUAGES

(Examples: COBOL, C, C++, Visual BASIC)

Academy Education Center 851-0066 Bloomington
 Alto Consulting and Training 942-9101 Mpls.
 Application Developers Training 943-1363 Mpls.
 Augsburg Weekend College 330-1743 Minneapolis
 Benchmark 896-6800 Edina
 Bridge Data 933-3336 Minnetonka
 Brown Institute, NEC 721-2481 Mpls.
 CDI Computer Academy 851-0066 Bloomington
 Computer Training Internat. 378-0665 Mpls.
 Dakota County Tech College 423-8254 Rosemount
 Dakota City TC Custom Train. 423-8470 Rosemount
 Davis, Thomas & Assoc 591-6122 Minneapolis
 Euler Training Center 525-8915 Minneapolis
 ExecuTrain 921-8844 Bloomington
 Hennepin TC - Eden Prairie 944-2222 1-800-345-4655
 Honeywell Adult Education 951-0004 Mpls
 Int'l Ctr for Tech Bus. & Law 379-3922 Minneapolis
 Intertech 459-6682 Newport
 Minneapolis Community Coll. 341-7004 Mpls.
 Minneapolis Rehab Center 879-5435 Mpls.
 North Henn. Comm. College 424-0702 Brooklyn Park
 Northeast Metro Tech College 779-5828 White Bear Lk
 Oak Systems 542-8910 Minnetonka
 Office Information Systems 884-9199 Minneapolis
 PC Supply Center 334-3242 Minneapolis
 Productivity Point Internat. 844-0710 Bloomington
 Professional Program Developers 894-5017 Burnsville
 Red Wing Tech 338-8271 1-800-657-4849
 Science Museum 221-4722 St. Paul
 St. Paul Technical College 228-4306 St. Paul
 Synergistic Systems 339-6348 Mpls.
 UMD Cont Ed & Extension 218-726-8113 Duluth
 U. of St Thomas OOD Lab 962-5515 St. Paul
 Worthington Software 525-5901 Mpls.



OTHER SHORT-TERM TRAINING (NON-COMPUTER)

MANY OF THESE COURSES ARE AVAILABLE AT
OTHER PUBLIC TECHNICAL COLLEGES AND
COMMUNITY COLLEGES THROUGHOUT THE STATE

ACCOUNTING

Anoka-Hennepin Tech College 427-8359 Anoka
Copeland Buhl and Co. 473-0273 Wayzata
Rasmussen—Eagan 612-687-9000 1-800-852-6367
St. Thomas Mgmt Center 962-4600, 1-800-328-6819 ext 2-4600 Mpls.

BUILDING MAINTENANCE

St. Paul Technical College 228-4306 St. Paul

BUSINESS (Examples: Starting a business, Small Business Mgmt, Basic bookkeeping) **Many of the courses at state tech colleges are in their Small Business Mgmt. programs.

Anoka-Henn. Tech College** 427-8359 Anoka SmbusMgt
Central Lks Coll Small Bus. Ctr 218-828-5302 1-800-247-2574 ext. 302
Central Lks Coll.-Brain. Tech** 218-828-5344 1-800-247-2574
Concordia Coll Adult Lrng 641-8863 1-800-333-1180
Dakota County Tech College** 423-8262 Rosemount
Eveleth Technical College** 218-744-3302 1-800-345-2884
Hennepin TC- Brooklyn Pk** 425-3800 1-800-345-4655
Hennepin TC- Eden Prairie** 944-2222 1-800-345-4655
Hutchinson Tech College** 612-587-3636 1-800-222-4424
Minnesota Technology 612/672-3463
Minnesota Trade Office 297-4265 1-800-657-3858
Normandale Comm. College 832-6320 Bloomington
Northeast Metro Tech Coll.** 779-5828 White Bear Lk.
Open U, Inc. 349-9273 Minneapolis
Rasmussen—Eagan 612-687-9000 1-800-852-6367
Rochester Conum. College 507-285-7219 Small Bus. Ctr.
Women Venture 646-3808 St. Paul

CARPENTRY

Albert Lea PIC Office 507-373-4398 If enough students

ELECTRONICS/COMPUTER

NEI 781-4881 Columbia Hts
Northeast Metro Tech College 779-5828 White Bear Lk.
Open U, Inc. 349-9273 Minneapolis

EMERGENCY MEDICAL TECHNOLOGY

Anoka-Hennepin Tech College 427-8359 Anoka
Henn. Tech-Hopkins Tech Ctr 988-9383 X10 1-800-345-4655
Northeast Metro Tech College 779-5828 White Bear Lk.
Winona Technical College 507-454-4600 1-800-372-8164

INSURANCE

Alexandria Technical Coll. 320-762-0221 1-800-253-9884
Central Lakes Coll.-Brainerd 218-828-5344 1-800-247-2574
Central Lakes Coll.-Staples 218-894-3726 1-800-247-6836
ProSource Educational Serv 641-1000 St. Paul

ISSUES (Examples: Older Workers, Women, Job Search)
Albert Lea PIC Office 507-373-4398 Job Seeking
Dakota County Tech College 423-8254 Rosemount
Hennepin TC - Brooklyn Pk 550-2115 1-800-345-4655
Hennepin TC - Eden Prairie 550-3156 1-800-345-4655
Itasca Comm Coll. Grand Rpd 218-327-4460 1-800-996-6422
LouTice training PIC Marshall 507-537-0548 1-800-227-5027
NAPS (Nat'l Assn Prof Saleswomen) 331-7092 Mpls
Normandale Comm. College 832-6320 Bloomington
Northeast Metro Tech College 779-5828 White Bear Lk.
Open U, Inc. 349-9273 Minneapolis
Prototype Career Services 224-2856 St. Paul
Women in Transition 924-1266 St. Louis Park
Women Venture 646-3808 St. Paul

MACHINING — CNC (COMPUTER NUMERICAL CONTROL)

Anoka-Hennepin Tech 427-8359 Anoka
Central Lakes Coll. - Staples 218-894-3726 1-800-247-6836
Dunwoody Institute 374-5800 Minneapolis
Hennepin TC - Brooklyn Pk 425-3800 1-800-345-4655
Institute of Industrial Tech 785-2331 Blaine
Northeast Metro Tech 779-5828 White Bear Lk.
St. Paul Technical College 228-4306 St. Paul
PLUS MANY OTHER STATE TECHNICAL COLLEGES.

MANAGEMENT: (Examples: Supervisor Skills, ISO 9000)
Alexandria Technical College 320-762-0221 1-800-253-9884
Anoka-Hennepin Tech 427-8359 Anoka
Anoka-Ramsey CC 422-3303 Coon Rapids
Austin Comm. College 507-433-0505 1-800-747-6941
Central Lks Coll Small Bus. Ctr 218-828-5302 Brainerd
Dakota County Tech College 423-8396 Rosemount
Employers Assn: Mpls-St Paul 546-9100 or 644-9702
Hennepin T. C. 550-7177 Plymouth
Itasca Comm Coll. Grand Rpd 218-327-4460 1-800-996-6422
Normandale Comm. College 832-6320 Bloomington
Northeast Metro Tech 779-5828 White Bear Lk.
Open U, Inc. 349-9273 Minneapolis
Red Wing Technical College 338-8271 1-800-657-4849
St. Paul Technical College 228-4306 St. Paul
UAW Dislocated Worker Prog 647-9322 St. Paul
St. Thomas Mgmt Center Mpls. 962-4600, 1-800-328-6819 ext 2-4600

MANUFACTURING

(Examples: Metal Fabrication, Statistical Process Control)
Bemidji Tech 218-755-2233 1-800-942-8324
Northeast Metro Tech 779-5828 White Bear Lk.
Northland—Thief River Falls 218-681-0793 1-800-959-6282
St. Paul Technical College 228-4306 St. Paul

MECHANICAL SKILLS

(Examples: Welding, Power Press, Boiler Operation)
Albert Lea Tech—Welding 507-373-0656 1-800-333-2584
Anoka-Henn. Tech—Anoka 427-8359 Boiler Operation
Bemidji Tech—Welding 218-755-2233 1-800-942-8324
Central Lks-Brainerd—Boilers 218-828-5344 1-800-247-2574
Central Lks Coll.-Staples 218-894-3726 Boilers, welding
Dunwoody Institute, Mpls. 374-5800 Boilers, welding
NE Metro Tech—Boilers 779-5828 White Bear Lk.
Pine Tech, Pine City—Boilers 629-6764 1-800-521-7463
St. Cloud Tech—Welding 320-654-5089 1-800-222-1009
St. Paul Tech — 6-9 months 228-4306 Precision Metal Fab

MEDICAL

(Examples: Nursing Asst., Ward Clerk, Home Health Aide)
Albert Lea Technical College 507-373-0656 1-800-333-2584
Bemidji Technical College 218-755-2233 1-800-942-8324
Eveleth Technical College 218-744-3302 1-800-345-2884
Hibbing Comm. College 218-262-6700 1-800-224-4422
Northland—Thief River Falls 218-681-0793 1-800-959-6282
PLUS MANY OTHER STATE TECHNICAL COLLEGES.

REAL ESTATE

Alexandria Technical College 320-762-0221 1-800-253-9884
Anoka-Hennepin Tech College 427-8359 Anoka
Central Lakes Coll.-Brainerd 218-828-5344 1-800-247-2574
Central Lakes College-Staples 218-894-3726, 1-800-247-6836
Eveleth Technical College 218-744-3302, 1-800-345-2884
Hennepin TC - Eden Prairie 944-2222 1-800-345-4655
ProSource 641-1000 St. Paul
Willmar Technical College 320-235-5114 1-800-722-1151

SECRETARIAL SKILLS

Austin Comm. College 507-433-0505 1-800-747-6941
Hennepin TC - Brooklyn Pk 425-3800 1-800-345-4655
Pine Tech—Pine City 629-6764 1-800-521-7463
St. Paul Technical College 228-4306 St. Paul
TC OIC 377-0150 Minneapolis
PLUS MANY OTHER STATE TECHNICAL COLLEGES.

TRAVEL AGENT

Interstate Business Coll.- Fargo 701-232-2477 1-800-779-8080

CUSTOMIZED TRAINING: SHORT, QUICK, TIMELY, CONVENIENT, PRECISE, RELEVANT, COST-EFFECTIVE

A woman in her mid-forties, call her Sharon, who had worked for years as an assembler at a Twin Cities area computer manufacturer, sensed a year ago that she probably would be facing a layoff in the coming months. She feared she'd need a new career. So on her own she enrolled in a two-year training program in office computers at a reliable local school, committing a considerable amount of her own money and time. But after only two weeks in the program, she was disappointed that she wasn't getting the personal attention that she thought she needed as a middle-aged person in career training for the first time. And she was frustrated because she couldn't keep up with others in the class who knew how to type better. As a result, one day she walked out and never went back, even though it meant losing a fair amount of the money.

Eventually, in the ensuing months, the layoff she feared actually happened. Luckily, toward the end of 1995, Sharon entered a "dislocated worker" program whose aim was to assist her in becoming re-employed.

IT'S THE WAVE OF THE FUTURE. IT'S PART OF "LIFE-LONG LEARNING."

They put her in touch with Marcia Bay, Customized Training Consultant at St. Paul Technical College's customized training office, where she received a personal assessment of her situation—testing and advice—and eventually was helped to enroll in a special personal computer (PC) course.

The course had been developed for others in a situation similar to hers: a group of people who had worked in the "same old job" for years—in assembly, warehousing, or shipping and receiving—whose average age was 52, and who knew that one good way to compete in the modern job market was to pick up personal computer skills. The trainees had been tested and assessed to assure that computer training was within their abilities and interests—such assessment

is critical to training success, says Ms. Bay. However, Ms. Bay discovered that, although many of the people had some experience with computers on the job, that experience was usually limited to touching one key as a command to enter a program and then performing the necessary work by poking the keys with one index finger or, if more advanced, with two. Ms. Bay knew that without computer keyboard skills, the trainees use of the computer would be very limited; so she planned an 18-hour keyboard class (3 hours per day for six sessions) with 12 trainees per class and taught by specially-chosen instructors who focussed on the individual speeds and abilities of the trainees.

From that class the trainees went on to a nine-hour Windows 95 class and then on to specific office uses of computers—word processing, spreadsheets, accounting, etc. Sharon entered the keyboard course three months ago. It turned out quite different from the previous training experience that she had walked out of in frustration. She found that the specially-planned 3 to 4 hours per day really held her attention and that she got the guidance she needed from the instructor to successfully complete the program. Eventually, she gained familiarity with the keyboard, with Windows 95, and finally with Wordperfect, Access, and two other computer applications.

When Ms. Bay ran into her recently, Sharon was excited. She'd just been hired on a full-time job after only three months of the training. She exclaimed to Ms. Bay, "You totally evaluated my skills. The instructor was sensitive to my needs. And the training was just right for me."

Such is the story of customized training, a career-training concept coming into its own in the last few years. Basically customized training consists of tailor-made training programs based on what specific skills are needed *right now* by workers and by employers. It's the wave of the future. It's part of "life-long learning."

And it's meant to keep you employable, with a present employer or a future one.

Customized training such as the example above is usually aimed at conveying specific skills to specific groups of workers in a short amount of time and in a timely way. For example:

- ◆ Teaching CNC machining (computer numerical control) to six metal shop workers about to be laid off from a defense contractor because of cutbacks in military spending.
- ◆ Teaching a new personal computer database package, Visual FoxPro, to forty underwriters and claims examiners at a life insurance company which has recently introduced the software in their home office.
- ◆ Assessing the training needs of a printing company that has ordered a flexographic printing machine which is individually geared to handle some unique type of work that the company does, that is, printing on plastic wrappers for loaves of bread. Customized training for the company's workers on that machine is set up within three weeks at the company's plant.

MANY STATE TECHNICAL COLLEGES, COMMUNITY COLLEGES, AND UNIVERSITIES HAVE INTRODUCED CUSTOMIZED TRAINING PROGRAMS. CALL THEM & ASK. (Phone nos.: pp. 75, 62-63, 69)

Many state technical colleges and community colleges have introduced customized training programs in the recent past. In addition to their traditional one-year and two-year programs, they have found a great need for shorter, specific training. To find out if a school near you has customized training, call and ask. According to Craig Anderson, Vice President of Customized Training at the St. Paul Technical College, a much larger percentage of technical college and community college activity will be spent in customized training. This increase in activity is probably due to several reasons:



- ◆ Workplace skills are changing with greater rapidity and workers need retraining.
- ◆ The emergence of the personal computer and the constant introduction of new software demand new skills from large groups of workers and job-seekers.
- ◆ Corporate layoffs have stranded large numbers of workers without the up-to-date skills they need to compete effectively in the marketplace, & long-term training programs are often not practical.
- ◆ Employers are demanding considerable amounts of retraining of their employees.
- ◆ Employers and trainees are expecting more flexible and more just-in-time training, as opposed to traditional coursework which is offered at set times and set places.

The lessons of this type of training are that: If employed, seriously consider taking advantage of training that an employer offers.

If unemployed, seriously consider taking advantage of skill training that an *employment program* offers.

And...customized training many times will be set up within a limited time frame for a small group of employees of a company. But if the group is too small the course may not be cost-effective, unless additional trainees are recruited. Therefore, opportunities may exist for outsiders to conveniently pick up a job skill that's in demand.

Remember, it's short, quick, timely, precise, convenient, relevant, and cost-effective.

EXAMPLES OF CUSTOMIZED TRAINING AVAILABLE

TYPE	PLACE	PHONE	TYPE	PLACE	PHONE
Accounting	St. Paul Tech	221-1365	Law Enforcement	DakotaTech, Rosemnt.	423-8369
Accounting Mpls.	St. ThomasMgmtCentr	962-4600	Managemt. Career Skills	Pine Tech, Pine City	612-629-6764
Better Business Writing	Austin CC	507-433-0532	Managemt. Career Skills	Brainerd Tech	218-828-5365
Boilers	Hutchinson Tech	320-587-3636	Managemt. Career Skills	Staples Tech	218-894-3726
Boilers	Detroit Lakes Tech	218-847-1341	Mgmt. Career Skills-Mpls.	St. ThomasMgmtCentr	962-4600
Boilers	Eveleth Tech	218-744-3302	Marketing	Brainerd Tech	218-828-5365
Building Contractors	Detroit Lakes Tech	218-847-1341	Marketing	Staples Tech	218-894-3726
CAD	St. Paul Tech	221-1365	Mill Writing	Eveleth Tech	218-744-3302
CAD	Anoka-Hennepin Tech	427-8359	Multimedia	LkSuperiorColl.Duluth	218-722-2801
Carpentry	Eveleth Tech	218-744-3302	Nurse Aide	Canby Tech	507-223-7252
Certified Network Admin	St. Paul Tech	221-1365	Nursing	Pine Tech, Pine City	612-629-6764
Certified Network Engineer	St. Paul Tech	221-1365	Nursing Aide	Willmar Tech	320-235-5114
CNC Machinist	St. Paul Tech	221-1365	Office Administr. Support	St. Paul Tech	221-1365
CNC Machinist	Anoka-Hennepin Tech	427-8359	Plumbing Inspection	Red Wing Tech	612-388-8271
Computer Job Skills	St. Paul Tech	221-1365	Precision Metal Fabrication	St. Paul Tech	221-1365
Construction Safety	LkSuperiorColl.Duluth	218-722-2801	Real Estate	Eveleth Tech	218-744-3302
Customer Service	Austin CC	507-433-0532	Real Estate	St. Paul Tech	221-1365
Electronics	Eveleth Tech	218-744-3302	Real Estate	Worthington CC	507-657-3966
Emergency Medical Tech	Winona Tech	507-454-4600	Real Estate	Brainerd Tech	218-828-5365
Emergency Medical Tech	Hutchinson Tech	320-587-3636	Real Estate	Staples Tech	218-894-3726
Field Electrician	Eveleth Tech	218-744-3302	Secretarial	Austin CC	507-433-0532
Flexographic Printing	St. Paul Tech	221-1365	Small Business	Eveleth Tech	218-744-3302
Hazardous Material Tech	LkSuperiorColl.Duluth	218-722-2801	Small Business	Rochester CC	507-285-7217
Hazardous Waste Mgmt	LkSuperiorColl.Duluth	218-722-2801	Small Business	St. Paul Tech	221-1365
Health Career Skills	Rochester CC	507-285-7217	Supervision / Management	Austin CC	507-433-0532
Health Career Skills	Brainerd Tech	218-828-5365	Supervision / Management	Brainerd Tech	218-828-5365
Health Career Skills	Staples Tech	218-894-3726	Supervision / Management	Staples Tech	218-894-3726
Heating / Air Conditioning	Eveleth Tech	218-744-3302	Supervisory Management	DakotaTech, Rosemnt.	423-8369
Home Health Aide	Willmar Tech	320-235-5114	Telecommunications	DakotaTech, Rosemnt.	423-8369
Hospitality Management	Vermilion CC, Ely	218-365-7200	Vehicle Inspection	Detroit Lakes Tech	218-847-1341
Industrial Hygiene	Eveleth Tech	218-744-3302	Waste Management	Vermilion CC, Ely	218-365-7200
Industrial Sewing Machine	Red Wing Tech	612-388-8271	Welding	Eveleth Tech	218-744-3302
Insurance	Worthington CC	507-657-3966	Welding	St. Cloud Tech	320-654-5946
Insurance	Brainerd Tech	218-828-5365	Welding	Willmar Tech	320-235-5114
Insurance	Staples Tech	218-894-3726	Welding	Anoka-Hennepin Tech	427-8359

FOR PHONE NUMBERS & CUSTOMIZED

TRAINING NOT MENTIONED ABOVE:

The above are a few examples of the customized training that's available. Many, many other courses are offered. Most state technical colleges, community colleges, & universities have introduced customized training programs, or have other short-term training. Some of the phone numbers above are direct to cus-

tomized training offices. To reach the customized training offices of technical colleges and community colleges not mentioned above, see the general phone numbers on pp. 62-63.

For four-year colleges, see p. 69.

WHERE TO GET MORE INFORMATION

ABOUT CUSTOMIZED TRAINING

Because customized training has grown

so rapidly, it's sometimes hard to know where and when customized courses are available. In order to deal with that problem, the customized training programs at St. Paul Technical College and the five other metropolitan area technical colleges are spearheading an effort to establish an Information Resource Center—a clearinghouse and coordinating agency for customized training,

with special attention to the needs of unemployed and underemployed workers. The hope is that such a clearinghouse will help trainees and employers to easily access short-term training that's available. Eventually the resource center expects to include information on all customized training statewide. Look for the Information Resource Center in the last half of 1996.

COMMUNITY EDUCATION

Looking for an inexpensive way to update your job skills? Community education may be the answer. Wherever there is a school district, there is a community ed center, generally providing coursework for adults at a reasonable cost. Some coursework is career-oriented. A possible drawback is that instructors are not necessarily trained as teachers. For information about community ed in your school district, call the district and ask for the community education director.

Funding for community ed is based on the population of the community (districts receive \$6 per person), so the largest programs are in the largest school districts: Minneapolis, St. Paul, Anoka, Rosemount, Apple Valley, Bloomington and Duluth.

Many of the community education centers have free Adult Continuing Education courses such as G.E.D. preparation and math/English skills. Some, like Inver Grove Heights, Hopkins and Minneapolis, even offer Career & Job Skills, and Career Testing & Counseling. Often, free child care is available as well.

There are a variety of computer courses which may enhance your career. Most centers have computer courses for beginners and teach basic word processing, using one or more of Windows, Macintosh, and DOS. For example, there is Intro to WordPerfect for \$36 at Inver Grove Heights High School, Intro to Word

Processing on Macintosh for \$35 at Orono High School, Introduction to DOS for \$16 at Minneapolis Southwest High School, Windows I & II for \$32 each at Columbia Heights High School or an Internet class for \$8.50 at Roosevelt High School. Some have more advanced topics like Spreadsheets for \$37 at

Orono High School, Database Mgmt. (for creating and retrieving records) for \$40 at White Bear Lake High School, Pagemaker (a desktop publishing program) for \$25 at Minneapolis Edison High School.

The amount of material covered in each course and the number of different courses offered seem to vary from center to center so it may be worthwhile to call around for the class best suited to you.

In addition, many of the centers offer classes in career development. For example, North St. Paul High School has a class on Career Decision Making and another on Jobs of the Future, each for \$5. Minneapolis Community College has classes on Resume Writing, Interviewing, and Job Searching, each \$15. Minneapolis South High has Good Jobs without a College Degree for \$8.

In the area of office finance, South Community School in Minneapolis has an Accounting Crash Course for \$17.75. Pratt Community Ed Center in Minneapolis has Book-keeping Fundamentals for \$7.

The phone no. of the state director of community education is 297-4869.

A Word On Age and Employment

As an older worker, whether you're 40, 50, or 60, you bring a unique combination of skills, maturity and expertise to the workplace. You are part of a generation that has a strong positive work ethic. You bring valuable qualities to the labor force, and you have a performance record of demonstrated ability. You know how

to work with other people and how to handle responsibility as a result of years of experience. You may have become discouraged by attitudes some employers have toward older workers; there is age discrimination in the workplace. However, the very qualities employers want in any employee are the ones in which older workers excel. Some examples follow.

Employers are looking for employees with these qualities:

Low turnover—employees who stay with them (eliminates need to train new employees).



Less absenteeism.

Good basic skills.

If you are an older worker, you can emphasize these qualities:

You're looking for a job with stability. On the average, older workers stay at a job three times longer than younger workers.

You're reliable, punctual, & miss fewer days.

You have good basic math, spelling and writing skills. You bring years of experience and mature judgment to the job.

You have superb self-management skills. You give a full day's pay. You take pride in and care about the quality of your work.

Loyalty to the organization.

One of your best traits! You identify with the organization and feel a strong sense of responsibility to contribute.

Ability to get along well with co-workers and customers.

You have years of experience learning "people" skills. You know how to cooperate, collaborate and negotiate.

Flexibility and "grace under pressure."

Piece of cake! After all these years of crises, deadlines and plans that go awry, from family situations to wars, you've learned a few coping mechanisms. You've survived by learning to adapt to new situations.

So remember, you and your peers are better educated, more highly trained and skilled than any generation before you. You are healthier,

more active and have a longer life expectancy. You still have much to contribute to the workplace, community and country.



WORKERS OVER 40

There are resources available for workers over 40. The Feb. 28, 1996, issue of *Twin Cities Employment Weekly* (published by the *Twin Cities Reader*) contained a long article on the topic of older workers. One of the resources mentioned is "Job Search Over 40: Selling to Your Strengths," a monthly workshop & a booklet by the same name produced by: Prototype Career Services, St. Paul 612-224-2856 or 1-800-368-3197.

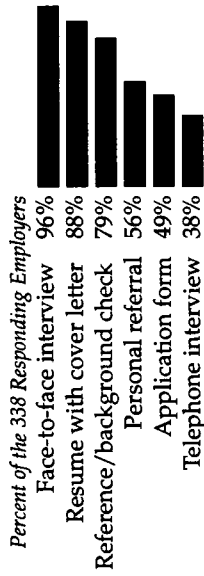


—What one group of Minnesota employers says about evaluating today's job applicants—

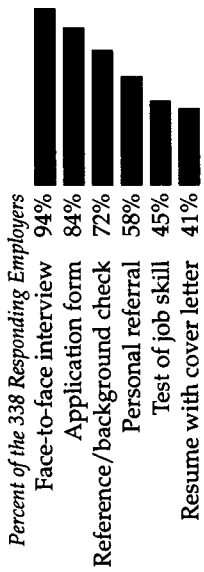
1. Most heavily relied upon METHODS TO SCREEN CANDIDATES for salaried and hourly positions.

Each employer chose five items from a list of eleven.

SALARIED WORKERS



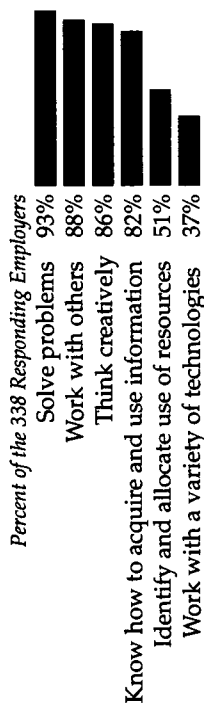
HOURLY WORKERS



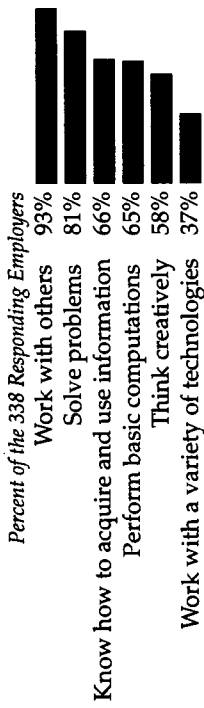
2. Most important THINKING SKILLS EMPLOYERS LOOK FOR when hiring candidates.

Each employer chose five items from a list of twelve.

SALARIED WORKERS



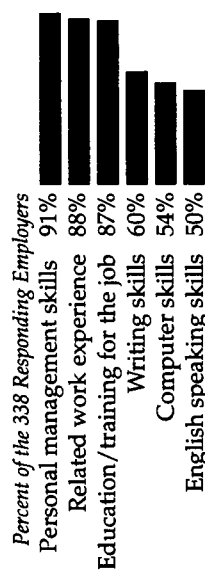
HOURLY WORKERS



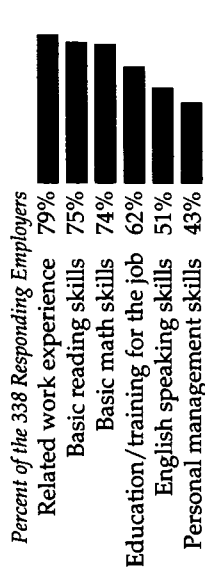
3. Most important QUALIFICATIONS EMPLOYERS LOOK FOR when hiring candidates.

Each employer chose five items from a list of nine.

SALARIED WORKERS



HOURLY WORKERS



Source: A survey conducted by the Employers Association, Inc. and the Minnesota Business Partnership in the summer of 1994. The survey was completed by 338 Minnesota companies, and

although 68% were manufacturers, companies *not* producing factory goods responded to the survey quite similarly to the manufacturers.

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WHERE TO CALL FOR JOBS & TRAINING HELP

Find out if you are eligible to use these services.

Training services may include basic education, vocational counseling, temporary work experience, on-the-job training, career training, job-seeking help, and job placement.

To find out if you qualify for services, call the phone number serving your area (see below) or 1-800-456-8519, and you will be directed to the office nearest to you.

<p>Northwest Job Training Program Crookston 218-281-6020 Call toll-free: 1-800-657-3791</p> <p>Counties: Kittson, Marshall, Norman, Polk, Red Lake, Roseau, Pennington</p>	<p>Northwest Minnesota Office of Job Training Virginia 218-749-1274 Call toll-free: 1-800-325-5332</p> <p>Counties: Aitkin, Carlton, Cook, Itasca, Koochiching, Lake, St. Louis (not including Duluth; does not serve Duluth residents)</p>
<p>Rural Minnesota Concentrated Employment Program (CEP) Detroit Lakes 218-847-9205 Call toll-free: 1-800-492-4804</p> <p>Counties: Becker, Beltrami, Cass, Clay, Clearwater, Crow Wing, Douglas, Grant, Hubbard, Lake of the Woods, Mahanomen, Morrison, Otter Tail, Pope, Stevens, Todd, Traverse, Wadena, Wilkin</p>	<p>City of Duluth Job Training Program Duluth 218-723-3771</p> <p>Serves only those who live inside City of Duluth</p>
<p>Stearns and Benton Counties J.O.B.S. Program St. Cloud 320-202-2100</p>	<p>(Central Minnesota) Private Industry Council 5 Annandale 320-274-2650 Call toll-free: 1-800-284-7425</p> <p>Counties: Chisago, Isanti, Kanabec, Kandiyohi, McLeod, Meeker, Mille Lacs, Pine, Renville, Sherburne, Wright</p>
<p>Southwest Job Training Program Marshall 507-532-4411 TTY: 1-800-422-0687</p> <p>Counties: Big Stone, Chipewewa, Cottonwood, Jackson, Lac Qui Parle, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood, Rock, Swift, Yellow Medicine</p>	<p>Winona County Training and Employment Winona 507-453-2920</p> <p>Independent Programs ■ Minnesota Teamsters Service Bureau 612-647-6478 ■ UAW Dislocated Worker Program 612-647-9322 ■ Employers Assn. Employment Services 612-647-1560</p>
<p>South Central Private Industry Council Job Training Program Mankato 507-345-1837 Call toll-free: 1-800-767-7139</p> <p>Counties: Blue Earth, Brown, Faribault, Le Sueur, Martin, Nicollet, Sibley, Waseca, Watonwan</p>	<p>City of St. Paul Employment and Training 612-228-3262</p> <p>Serves only those who live inside City of St. Paul</p>
<p>For other information, call: Twin Cities: 612-296-0928 or Outside T.C.: 1-800-456-8519</p>	<p>South Central Minnesota Private Industry Council Job Training Program Rochester 507-281-4670 Call toll-free: 1-800-543-5627</p> <p>Counties: Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha</p>
<p>Twin Cities Area Hennepin-Scott-Carver Employment and Training Consortium (Does not include Minneapolis) 612-348-5203</p> <p>Counties: Scott, Carver, Suburban Hennepin only (Does not serve Minneapolis residents)</p>	<p>Anoka County Job Training Center Blaine 612-783-4800</p>
<p>Dakota County Jobs and Training Dept. Hastings 612-438-8345</p>	<p>Ramsey County Job Training Center (Does not include St. Paul) Maplewood 612-770-8900</p> <p>County: Suburban Ramsey County only (Does not serve St. Paul residents)</p>
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