

## A SPECIAL REPORT

New England Marine Resources Information Program  
 Narragansett Bay Campus, University of Rhode Island, Narragansett, R. I. 02882

Marine Careers Series:  
 SCIENTIFIC/TECHNICAL ILLUSTRATOR

**CIRCULATING COPY**  
 Sea Grant Depository

Marine Memorandum No. 20  
 March 1972

The scientific/technical illustrator designs and produces illustrations of data, including graphing, cartography, photography, mechanical drawing, sketches and lettering for reproduction in journals, books, and technical manuals.

## REQUIREMENTS AND QUALIFICATIONS

***You should have these:***

- techniques of drafting and commercial art, including all types of lettering
- a concern with detail and accuracy
- conceptual ability to translate ideas into material objects
- ability to get along with fellow employees
- basic understanding of photography and printing

***You should be able to:***

- sit and concentrate on fine details for long periods of time
- lay out and compose work
- read engineering drawings
- achieve extreme accuracy in work while maintaining a reasonable degree of speed

***You should know that:***

- men predominate in this field, but women can be successful
- impairment of lower limbs is not a handicap
- there is a temporary surplus of technical illustrators because of aerospace industry job cutbacks

## PREPARATION AND TRAINING

***Education:***

Almost all employers set high school graduation as a minimum requirement and have a strong preference for applicants with some specific training in technical illustration, especially when there is a surplus of applicants.

The course of study includes courses in mechanical drawing, art, photography and printing. Many junior colleges offer a two-year course in technical illustration.

*Locations:*

Most technical/vocational schools, many junior colleges and colleges

*Special entry requirements:*

Most employers ask the applicant to submit samples of his work and, when hiring an experienced illustrator, may specify previous employment in a particular type of activity.

Firms engaged in military work require United States citizenship and, frequently, security clearance.

OPPORTUNITIES: PRESENT AND FUTURE

Recent cutbacks in the aerospace industries have created a minor surplus of technical illustrators; but officials of TIMA (Technical Illustrators' Management Association) are confident that this is a temporary situation. They point out that as machines become more complex, and as industry must hire many workers who are not trained to read engineering drawings, technical illustration becomes more important. The demand-supply situation can change rapidly, and persons considering a career in technical illustration are urged to consult with responsible teachers and industrial supervisors for the latest information on job prospects.

Men predominate as technical illustrators although many women are successfully engaged in this work.

EARNINGS AND WORKING CONDITIONS

*Salary:*

Earnings vary widely, depending on the knowledge and versatility required of the illustrator. Some employers occasionally hire inexperienced high school graduates as inkers and tracers at \$1.25 to \$1.50 an hour. The majority, however, seek trainees who have had college-level instruction in the occupation and pay them \$2.00 to \$2.25 to start. Trainees with college training and some employment experience may receive \$2.50. The majority of experienced illustrators are paid between \$3.00 and \$4.00 hourly. The top salary at this time is about \$800.00 a month.

*Hours:*

The normal work week is 40 hours.

*Fringe Benefits:*

Most work for the government, large companies, or universities which provide the following:

- social security and pensions
- health and accident benefits
- paid vacation and holidays
- life insurance

## EMPLOYMENT OUTLOOK

Technical illustrators are employed in manufacturing firms, the research and development industries, and research organizations such as universities. Job seekers may obtain job leads from college instructors, school placement bureaus, state employment services and private agencies. Some firms place classified ads in the newspapers and trade magazines, and others depend on drop-in applicants at their personnel offices.

In many areas the primary means of getting employment is through an agency such as Manpower, Inc. These pay top salaries and give the user an opportunity to see your work prior to full-time employment.

## JOB DESCRIPTION

- prepares drawings from blueprints, designs, mockups and photoprints by methods and techniques suited to specified reproduction processes or final use -- such as blueprint, photo-offset, and projection transparencies-- using drafting and optical equipment
- lays out and draws schematic, perspective, orthographic, or oblique-angle views to depict function, relationship, and assembly sequence of parts and assemblies such as gears, engines and instruments
- draws graphs, charts, and scientific illustrations to display data
- shades or colors drawing to emphasize details or to eliminate undesired background, using ink, crayon, airbrush and overlays
- pastes instructions and comments in position on drawing
- may draw cartoons and caricature to illustrate operation, maintenance, and safety manuals and posters

## WHERE TO GO FOR MORE INFORMATION

- employment office
- Technical Drawing, Giesecke, Mitchell and Spencer, Macmillan Co., New York 1958
- Technical Illustration, Procedures and Practices, Joseph C. Gibby, American Technical Society, Chicago 1961
- Technical Illustration, T. A. Thomas, McGraw Hill, New York 1960
- Visual Arts for Industry, George Magnan, Reinhold, New York 1961
- your high school or junior college counselor