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Careers in Wood Science and Technology

CAREERS IN WOOD SCIENCE AND TECHNOLOGY
(Society of Wood Science and Technology)
n.d., n.p.

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CAREERS IN WOOD SCIENCE TECHNOLOGY

WOOD: OUR MOST VALUABLE RESOURCE

Wood has always provided society with its basic needs for fuel and shelter. The aesthetic and decorative characteristics of wood are incentives for its use in paneling, furniture, and architectural design. Wood products emerging from production facilities, however, satisfy a wider variety of human needs and wants. Consider a few of the things around us: implements for work; toys for play; houses, furniture, books, and newspapers; photographic film, and energy--conveniences and necessities all supplied by wood. The list goes on to include lumber, plywood, particleboard, fiberboard, pallets, and numerous other industrial and consumer commodities; and the list continues to grow.

Our society is facing diminishing supplies of nonrenewable resources and increased costs for their procurement. Compared to wood, nonrenewable resources, such as oil and iron ore, have high energy requirements for conversion into finished goods. Wood, as a renewable resource, is an attractive alternative. Accordingly, an increase in the use of wood and the variety of products produced from it promise a bright future for the wood-using industries and our society.

The forest products industry is one of the largest in the United States. Government statistics for 1986 show that the lumber and wood products, furniture and pulp and paper segments of the forest products industry employ over two million people, with an annual payroll of over 36 billion dollars. The annual tonnage of wood processed in the United States is greater than the tonnage of steel, cement, plastics, aluminum, and all other metals combined. The forest products industry is distributed throughout the United States in both large cities and rural communities.

WHAT IS WOOD SCIENCE AND TECHNOLOGY?

Wood Science and Technology is an expanding career opportunity for individuals interested in material science, engineering, material processing, chemistry, or marketing. It is an interdisciplinary field that has its foundation in the physical sciences, with a direct link to applications of technology. There are about 2500 wood scientists and technologists, with college degrees, distributed geographically throughout the United States and Canada. This is a profession in which your contribution can make a difference.

Graduates of a Wood Science and Technology program have a comprehensive knowledge and understanding of wood as a raw material. This knowledge includes the anatomical, physical, chemical and mechanical properties of wood. In addition, students receive training in the major wood processing operations, i.e., drying, machining, gluing, finishing, treating, pulping and chemical modification. Depending upon their career interests, students supplement their knowledge of wood as a material by a selection of additional courses within a specified area. Examples of areas often chosen are industrial

engineering, business administration, personnel relations, economics, civil engineering, and chemistry. Some universities offer degrees in wood engineering as part of their engineering curriculum.

CAREERS IN WOOD SCIENCE AND TECHNOLOGY

The opportunities for a satisfying career in the Wood Science and Technology field are many and varied. Employment openings currently exceed the number of graduates available to fill them, and this shortage is expected to continue into the foreseeable future. Salaries in the field of Wood Science and Technology compare favorably with those offered to engineers and scientists in this country. The opportunities for advancement are excellent.

The primary goal of wood scientists and technologists is to bring about the most efficient conversion of the forest resource into useful products.

Diversified career opportunities exist, but students usually tailor their coursework to satisfy individual career goals. Within the field there are four broad areas in which graduates find employment:

- Manufacturing
- Marketing
- Technical Service
- Research

Here is a brief description of the job responsibilities in each of these areas:

MANUFACTURING

Careers in manufacturing are concerned with product and process development, quality control, production control, engineering, personnel relations and management. This is the most diverse area within the Wood Science and Technology field. For example, graduates who specialize in this area may initially find employment as a production supervisor in a plywood mill, a design engineer for a company specializing in timber construction, or possibly as a process control technician in a papermill. Many graduates in this area move on to become plant managers and executives.

MARKETING

Today, marketing is recognized as a key element in the overall business strategy of forest products firms. Marketing is the income-producing side of a business, and embraces many business activities. Marketing is comprised of the activities by which the flow and exchange of ideas, goods, and services are controlled from the inception to final consumption. Students who specialize in marketing many times have their first job in sales, moving later to management of a district or national account. Others may go into retail management in the rapidly growing home improvement center industry, beginning at a trainee position and typically moving through assistant manager to store manager in 2 to 5 years. Still others with an analytical aptitude may be employed as a market research analyst or product-market manager in corporate headquarters.

TECHNICAL SERVICE

Technical Service representatives for wood industry suppliers utilize their knowledge of wood to enhance the efficiency of their clients' operations. Employment may be found with a chemical company, machinery manufacturer, or other service-oriented businesses. State and federal governments also provide technical service careers in their Extension Service. Because many domestic forest products industries are small, government extension agents are the principal source of

information on current technology for these firms. Similar work is found with Forest Products Associations as their technical service representatives. They provide technical input to broad industry problems, to consumers' questions, to quality standards, and to establishing product standards.

RESEARCH

Inquisitiveness, imagination and ingenuity are the necessary characteristics for the wood scientist who pursues a career in research. Many new and improved wood products and processes have resulted from wood research over the past 40 years. Employment opportunities exist with the large wood products firms, universities, and government. The research areas are many and may range from developing new plastics from wood to a method of cutting wood without producing sawdust. Individuals seeking research careers must complete graduate training.

EDUCATIONAL REQUIREMENTS

Preparation for enrollment in a program of Wood Science and Technology includes high school courses in the physical and biological sciences, mathematics, and communications.

Professional training in Wood Science and Technology is offered by many of the state universities. Frequently, an educational unit in the field of Wood Science and Technology is housed within the curricula of an agricultural college. However, many of these teaching programs have been formed as part of a **forestry** college, engineering college, or college of natural resources. An inquiry to the university admissions office will elicit a response. High school career counselors can provide information on programs of study leading to careers in Wood Science and Technology. For a list of universities offering 4- year degrees in the field of Wood Science and Technology write to the Society of Wood Science and Technology, One Gifford Pinchot Drive, Madison, Wisconsin 53705.

Wood Science and Technology can be a challenging and satisfying career. It involves a very diverse field of activities with a common link to a versatile resource--wood. As nature's building-block, the behavior and structure of wood is far more complex than any man-made material. Wood is a valuable resource that needs people to manage and use it wisely.

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