

Pathways to STEM Careers: Degrees, Occupations, and Earnings

A STEM-For-All Partnership & Research Initiative
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Introduction

Choosing a college degree is one of the most significant decisions a young person will make, as it sets the stage for their future career and financial well-being. This report, "Pathways to STEM Careers: Degrees, Occupations, and Earnings," serves as an essential guide for high school students and their parents, providing insights into the world of careers in science, technology, engineering, and mathematics (STEM). It is designed to help students explore and select a college major that aligns with their interests while leading to a career that offers a living wage upon graduation. For parents, this report is a crucial tool for guiding their children in making an informed choice about a college program that ensures a successful and secure future.

To provide the most reliable and up-to-date information, the data in this report was gathered from several trusted government sources. Undergraduate college degree data was sourced from the Integrated Post-Secondary Education Data System (IPEDS), which is maintained by the National Center for Education Statistics. The annual wage data was compiled using information specific to jobs in the state of Texas available from the U.S. Bureau of Labor Statistics. Finally, the occupational data came from the Occupational Information Network (O*NET), which is sponsored by the U.S. Department of Labor/Employment and Training Administration. By using these official sources, this report aims to provide a solid foundation for making one of life's most important decisions. For inquiries, please contact Dr. Omar S. López, Professor, Department of Organization, Workforce, and Leadership Studies, Texas State University at OL14@txstate.edu.



Engineering: Engineering programs apply scientific and mathematical principles to design, develop, and maintain structures, machines, systems, and processes. This broad field includes various specializations such as civil, mechanical, electrical, and chemical engineering.

Degree (BS/BA e.g.) Civil Engineering, Electrical Engineering, Mechanical Engineering

Occupations (e.g.) Engineer, e.g., Civil, Mechanical, Electrical, Aerospace

Salary Range:	Entry	Average	Maximum	
	\$79,210	\$138,887	\$184,430	



Architecture and Related Fields: Architecture involves the study of designing buildings and other physical structures, as well as landscape design and urban planning. It integrates artistic, scientific, and technical principles to create functional and aesthetically pleasing environments.

Degree (BS/BA e.g.) Architecture, Landscape Architecture, Urban Planning

Occupations (e.g.) Architect, Landscape Architect, Urban Planner, Architectural Designer

Salary Range: Entry Average Maximum \$65,790 \$119,725 \$184,430



Health Professions and Related Clinical Sciences: This broad category of programs prepare individuals for roles in healthcare, focusing on patient care, health promotion, disease prevention, and rehabilitation. Such roles include nursing, therapy, medical technology, and public health.

Degree (BS/BA e.g.) Nursing (BSN), Health Sciences, Medical Technology

Registered Nurse, Physical Therapist, Occupational Therapist, Medical Occupations (e.g.)

and Clinical Laboratory Technologist

Salary Range: Entry Average Maximum \$56,430 \$115,199 \$171,790



Computer and Information Sciences: This field of study covers the theoretical and practical aspects of computing, including software development, data management, network administration, and cybersecurity. It prepares individuals for roles in designing, building, and maintaining IT systems.

Degree (BS/BA e.g.) Computer Science, Cybersecurity, Information Technology

Occupations (e.g.) Software Engineer, Data Scientist, Network Administrator,

"Cybersecurity Analyst

Salary Range:	Entry	Average	Maximum	
	\$60,250	\$115,057	\$174,850	



Physical Sciences: These disciplines involve the systematic study of non-living systems, encompassing physics, chemistry, astronomy, and Earth sciences. It focuses on understanding the fundamental laws governing the natural world and the properties of matter and energy.

Degree (BS/BA e.g.) Physics, Chemistry, Geology

Occupations (e.g.) Chemist, Physicist, Geoscientist, Astronomer

Salary Range:	Entry	Average	Maximum	
	\$50,130	\$109,858	\$171,790	



Mathematics and Statistics: These fields encompass the study of abstract structures, quantities, and change, as well as the collection, analysis, interpretation, and presentation of numerical data. They provide foundational analytical and problem-solving skills across numerous disciplines.

Degree (BS/BA e.g.) Mathematics, Statistics, Applied Mathematics

Occupations (e.g.) Statistician, Mathematician, Data Analyst, Actuary

Salary Range:	Entry	Average	Maximum	
	\$45,280	\$105,871	\$136,950	



Social Sciences: These sciences focus on the study of human society and social relationships, including topics like economics, political science, sociology, anthropology, and geography. These fields analyze human behavior, institutions, and cultural developments.

Degree (BS/BA e.g.) Sociology, Political Science, Economics

Occupations (e.g.)

Social Worker, Market Research Analyst, Economist (often requires

graduate degree), Urban Planner

Salary Range:	Entry	Average	Maximum	
	\$53,800	\$104,298	\$147,930	



Biological and Biomedical Sciences: This field focuses on the study of living organisms, their structures, functions, and interactions, from molecular to ecosystem levels. Biomedical sciences apply these biological principles to health and medicine, including disease processes and therapies.

Degree (BS/BA e.g.) Biology, Biochemistry, Biomedical Science

Occupations (e.g.) Biologist, Research Associate, Biotechnologist

Salary Range:	Entry	Average	Maximum	
	\$49,850	\$88,388	\$136,950	



Agriculture and Related Sciences. This field encompasses the study of agricultural production, management, and the science behind sustainable food and fiber systems. It also includes research into agricultural technologies, animal and plant sciences, and environmental impacts of farming.

Degree (BS/BA e.g.) Agronomy, Animal Science, Agricultural Business

Occupations (e.g.) Agronomist, Farm Manager Agricultural Scientist Food Scientist

Salary Range:	Entry	Average	Maximum	
	\$40,440	\$77,899	\$110,740	



Natural Resources and Conservation. This area focuses on the management, conservation, and sustainable use of natural resources such as forests, wildlife, water, and minerals. It also covers environmental protection, ecological restoration, and policy related to resource stewardship.

Degree (BS/BA e.g.)

Forestry, Wildlife Ecology and Management , Environmental Science and Policy

Occupations (e.g.)

Conservation Scientist, Forestry Technician, Environmental Policy Analyst, Park Ranger

Salary Range:

:	Entry	Average	Maximum	
	\$40,830	\$75,933	\$107,570	

Additional Online Resources

O*NET OnLine: Sponsored by the U.S. Department of Labor, this is a comprehensive database of job information. It is a fantastic tool for exploring detailed descriptions of hundreds of occupations, including required skills, education levels, and salary data.URL: https://www.onetonline.org/

College Board's <u>BigFuture</u>: A free online planning guide that offers a range of tools, including a career quiz to help students match their interests with potential careers, a college search function, and information on how to pay for college. URL: https://bigfuture.collegeboard.org/

ACT's <u>College and Career Planning Resources</u>: Provides a step-by-step interactive timeline for college and career planning, along with resources to help students discover majors and careers based on their interests. URL: https://www.act.org/content/act/en/students-and-parents/career-planning.html

MyMajors: A free online assessment that helps students find their "best-fit" majors and connects them with colleges that offer those programs. It's a great tool for students who are undecided on a major. URL: https://www.mymajors.com/sub

<u>CareerOneStop</u>: A U.S. Department of Labor-sponsored site with resources to explore careers, find training and employment opportunities, and develop career goals. It also includes tools to match skills and values to potential careers. URL: https://www.careeronestop.org/

<u>College Navigator</u>: Maintained by the National Center for Education Statistics, this tool allows users to search for colleges based on a wide range of criteria, including location, size, programs offered, and tuition. URL: https://nces.ed.gov/collegenavigator/

Roadtrip Nation: This platform provides a unique, story-based approach to career exploration. Students can watch documentaries and read interviews with professionals to learn about their career journeys and discover potential pathways. URL: https://roadtripnation.com/explore/interests