STEM-For-All
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The Texas State STEM Pathway: Connecting Undergraduates to High-Demand Occupations

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, "*The Texas State STEM Pathway: Connecting Undergraduates to High-Demand Occupations*," serves as a tool for faculty to advise undergraduate students considering a STEM program. By providing students with insights into careers in science, technology, engineering, and mathematics (STEM), the report is designed to help them explore, reflect on, and select a college major that aligns with their interests while leading to an occupation that offers a living wage upon graduation. Based on Texas data, select STEM occupations in particular are annotated with an asterisk (*) to indicate they are projected high-growth occupations. For faculty, this information can also serve as crucial indicators for considering how their STEM programs align with the current supply and demand of the Texas STEM workforce.

To provide the most reliable and up-to-date information, the data in this report was gathered from several trusted government sources. Texas State's undergraduate college degree data for 2022-23 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 faculty with relevant information for guiding students in 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.

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 related to farming.

TXSTU Undergraduate 4-Year Degree	Degrees Awarded (2023) †	ONET Job Code	*	Job Title (*Growth Outlook)	Texas Statewide Employed	Median Annual Salary
Animal Sciences, General	80	19-1011	*	Animal Scientists	60	$84,010
		11-9013		Farmers, Ranchers, and Other Agricultural Managers	560	$72,220
		45-1011		First-Line Supervisors of Farming, Fishing, and Forestry Workers	1,290	$56,940
		19-4012	*	Agricultural Technicians	150	$48,120
		25-9021		Farm and Home Management Educators	480	$34,110

†IPEDS 2022-23; *Projected high growth occupation (BLS, 2025)

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.

TXSTU Undergraduate 4-Year Degree	Degrees Awarded (2023) †	ONET Job Code	*	Job Title (*Growth Outlook)	Texas Statewide Employed	Median Annual Salary
Environmental Science	55	19-2041	*	Environmental Scientists and Specialists, Including Health	4,090	$78,560
		13-1041		Compliance Officers	39,870	$72,050
		19-4071		Forest and Conservation Technicians	430	$51,570
		19-4042	*	Environmental Science and Protection Technicians, Including Health	3,490	$49,620
Water, Wetlands, and Marine Resources Management	6	19-1031	*	Conservation Scientists	2,070	$65,170

†IPEDS 2022-23; *Projected high growth occupation (BLS, 2025)

Computer and Information Sciences. This category 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.

TXSTU Undergraduate 4-Year Degree	Degrees Awarded (2023) †	ONET Job Code	*	Job Title (*Growth Outlook)	Texas Statewide Employed	Median Annual Salary
Computer Science	210	11-3021	*	Computer and Information Systems Managers	74,890	$167,320
		15-1243	*	Database Architects	6,330	$133,800
		15-1252	*	Software Developers	151,460	$130,500
		15-1212	*	Information Security Analysts	14,730	$124,970
		15-2051	*	Data Scientists	23,420	$106,540
		15-1221	*	Computer and Information Research Scientists	2,800	$101,990
		15-1253	*	Software Quality Assurance Analysts and Testers	19,300	$101,800
		15-1254	*	Web Developers	5,280	$93,120
		15-1255	*	Web and Digital Interface Designers	7,360	$89,630
		15-1251		Computer Programmers	11,220	$80,820
		15-1231	*	Computer Network Support Specialists	12,730	$64,440
Computer and Information Sciences, General	78	11-3021	*	Computer and Information Systems Managers	74,890	$167,320
		15-1243	*	Database Architects	6,330	$133,800
		15-1241	*	Computer Network Architects	16,160	$129,110
		15-1242	*	Database Administrators	6,110	$109,990
		15-1211	*	Computer Systems Analysts	48,150	$104,970
		15-1221	*	Computer and Information Research Scientists	2,800	$101,990
		15-1253	*	Software Quality Assurance Analysts and Testers	19,300	$101,800
		15-1244		Network and Computer Systems Administrators	34,640	$94,170
		15-1255	*	Web and Digital Interface Designers	7,360	$89,630

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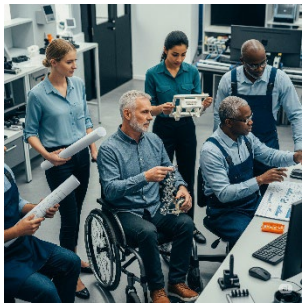

Engineering. Engineering programs apply scientific and mathematical principles to design, develop, and maintain structures, machines, systems, and processes. This broad field includes various specializations such as civil, mechanical, electrical, and chemical engineering.

TXSTU Undergraduate 4-Year Degree	Degrees Awarded (2023) †	ONET Job Code	*	Job Title (*Growth Outlook)	Texas Statewide Employed	Median Annual Salary
Civil Engineering, General	29	11-9041	*	Architectural and Engineering Managers	17,980	$170,650
		17-2051	*	Civil Engineers	33,790	$95,050
Electrical and Electronics Engineering	54	11-9041	*	Architectural and Engineering Managers	17,980	$170,650
		17-2061	*	Computer Hardware Engineers	3,380	$133,250
		17-2072	*	Electronics Engineers, Except Computer	9,070	$126,650
		17-2011	*	Aerospace Engineers	7,660	$126,470
		17-2071	*	Electrical Engineers	15,470	$105,560
Industrial Engineering	21	11-9041	*	Architectural and Engineering Managers	17,980	$170,650
		11-3051		Industrial Production Managers	21,780	$127,840
		17-2112	*	Industrial Engineers	29,620	$103,430
Manufacturing Engineering	36	11-9041	*	Architectural and Engineering Managers	17,980	$170,650
		17-2112	*	Industrial Engineers	29,620	$103,430
		13-1051		Cost Estimators	21,810	$74,930
Civil Engineering, General	29	11-9041	*	Architectural and Engineering Managers	17,980	$170,650
		17-2051	*	Civil Engineers	33,790	$95,050
Electrical and Electronics Engineering	54	11-9041	*	Architectural and Engineering Managers	17,980	$170,650
		17-2061	*	Computer Hardware Engineers	3,380	$133,250
		17-2072	*	Electronics Engineers, Except Computer	9,070	$126,650
		17-2011	*	Aerospace Engineers	7,660	$126,470
		17-2071	*	Electrical Engineers	15,470	$105,560

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Engineering Technologies/Technicians. These fields focus on the application of engineering principles and practical skills to design, develop, implement, and maintain technological systems. It involves hands-on work with tools, equipment, and software, often bridging theoretical engineering and practical execution.

TXSTU Undergraduate 4-Year Degree	Degrees Awarded (2023) †	ONET Job Code	*	Job Title (*Growth Outlook)	Texas Statewide Employed	Median Annual Salary
Construction Engineering Technology/ Technician	108	11-9021	*	Construction Managers	51,960	$99,600
		13-1051		Cost Estimators	21,810	$74,930
		17-3022		Civil Engineering Technologists and Technicians	5,790	$61,190
Engineering Technologies/ Technician, General	46	17-3021	*	Aerospace Engineering and Operations Technologists and Technicians	660	$83,320
		17-3023		Electrical and Electronic Engineering Technologists and Technicians	8,160	$69,720
		17-3024		Electro-Mechanical and Mechatronics Technologists and Technicians	1,200	$64,450
		17-3022		Civil Engineering Technologists and Technicians	5,790	$61,190

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

TXSTU Undergraduate 4-Year Degree	Degrees Awarded (2023) †	ONET Job Code	*	Job Title (*Growth Outlook)	Texas Statewide Employed	Median Annual Salary
Applied Mathematics, General	18	11-9121	*	Natural Sciences Managers	7,480	$130,140
		15-2051	*	Data Scientists	23,420	$106,540
		15-2041	*	Statisticians	1,210	$104,380
		15-2011	*	Actuaries	1,800	$100,260
Mathematics, General	31	11-9121	*	Natural Sciences Managers	7,480	$130,140
		15-2051	*	Data Scientists	23,420	$106,540
		15-2041	*	Statisticians	1,210	$104,380
		25-2031		Secondary School Teachers, Except Special and Career/Technical Education	112,300	$61,980

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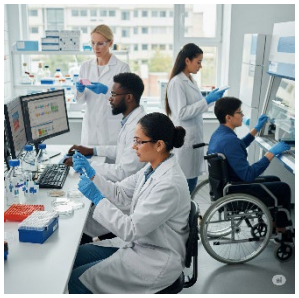

Biological and Biomedical Sciences. This field focuses on the study of living organisms, their structures, functions, and interactions, from molecular to ecosystem levels. Biomedical sciences specifically apply these biological principles to health and medicine, including disease processes and therapies.

TXSTU Undergraduate 4-Year Degree	Degrees Awarded (2023) †	ONET Job Code	*	Job Title (*Growth Outlook)	Texas Statewide Employed	Median Annual Salary
Aquatic Biology/Limnology	6	19-1029	*	Biological Scientists, All Other	2,600	$81,020
		19-4021	*	Biological Technicians	3,580	$48,830
Biochemistry	32	11-9121	*	Natural Sciences Managers	7,480	$130,140
		19-1021	*	Biochemists and Biophysicists	710	$94,560
		19-1042	*	Medical Scientists, Except Epidemiologists	11,450	$78,410
		19-4021	*	Biological Technicians	3,580	$48,830
		19-4013	*	Food Science Technicians	970	$46,170
Biology/Biological Sciences, General	208	11-9121	*	Natural Sciences Managers	7,480	$130,140
		19-1029	*	Biological Scientists, All Other	2,600	$81,020
		25-2031		Secondary School Teachers, Except Special and Career/Technical Education	112,300	$61,980
		19-4092	*	Forensic Science Technicians	1,990	$55,830
		19-4021	*	Biological Technicians	3,580	$48,830
		19-4012	*	Agricultural Technicians	150	$48,120
		19-4013	*	Food Science Technicians	970	$46,170
Microbiology, General	37	11-9121	*	Natural Sciences Managers	7,480	$130,140
		19-1022	*	Microbiologists	690	$62,720
		19-4021	*	Biological Technicians	3,580	$48,830
		19-4013	*	Food Science Technicians	970	$46,170
Wildlife Biology	54	19-1023		Zoologists and Wildlife Biologists	550	$50,610
		19-4021	*	Biological Technicians	3,580	$48,830

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Physical Sciences. This area involves 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.

TXSTU Undergraduate 4-Year Degree	Degrees Awarded (2023) †	ONET Job Code	*	Job Title (*Growth Outlook)	Texas Statewide Employed	Median Annual Salary
Chemistry, General	19	11-9121	*	Natural Sciences Managers	7,480	$130,140
		19-2031	*	Chemists	5,490	$101,260
		19-4031	*	Chemical Technicians	6,510	$64,520
		25-2031		Secondary School Teachers, Except Special and Career/Technical Education	112,300	$61,980
		19-4092	*	Forensic Science Technicians	1,990	$55,830
		19-4013	*	Food Science Technicians	970	$46,170
Physics, General	17	19-2012	*	Physicists	700	$170,450
		11-9121	*	Natural Sciences Managers	7,480	$130,140
		25-2031		Secondary School Teachers, Except Special and Career/Technical Education	112,300	$61,980

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Communication and Journalism. These fields explore the theories and practices of conveying information and crafting messages across various media platforms, such as news reporting, editing, broadcasting, public relations, advertising, digital media production, and strategic communication.

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Digital Communication and Media/Multimedia	96	15-1255	*	Web and Digital Interface Designers	7,360	$89,630
		27-3099	*	Media and Communication Workers, All Other	470	$50,370

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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.

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Geographic Information Science and Cartography	16	19-3092		Geographers	170	$75,550
		17-1021	*	Cartographers and Photogrammetrists	1,550	$71,970
		17-3031	*	Surveying and Mapping Technicians	7,810	$48,930

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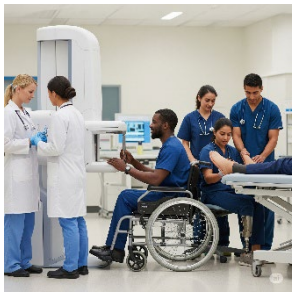

Health Professions and Related Clinical Sciences: This broad category includes programs preparing individuals for a wide range of roles in healthcare, focusing on patient care, health promotion, disease prevention, and rehabilitation. Such roles include nursing, therapy, medical technology, and public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

TXSTU Undergraduate 4-Year Degree	Degrees Awarded (2023) †	ONET Job Code	*	Job Title (*Growth Outlook)	Texas Statewide Employed	Median Annual Salary
Clinical Laboratory Science/Medical Technology/ Technologist	18	29-2011		Clinical Laboratory Technologists and Technicians	29,910	$54,840

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