

Texas Growth Occupations (STEM)

- Industrial Engineer
- Software Developer
- Electronics Engineer
- Mechanical Engineer
- Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic
- Licensed Practical and Licensed Vocational Nurses
- Dental Hygienists
- Medical and Health Services Managers
- Registered Nurse
- Respiratory Therapists
- Radiologic Technologists
- Physical Therapist Assistants
- Airline Pilots, Copilots, and Flight Engineers
- Accountants and Auditors
- Geological and Petroleum Technicians
- Electrical and Electronic Engineering Technicians
- Financial Managers
- Pharmacists
- Bookkeeping, Accounting, and Auditing Clerk
- Computer Systems Analysts
- Network and Computer Systems Administrators

TWC Texas Employment Landscape

Hiring managers are looking for more workers while also demanding workers with more technical skills, more work experience, and more education than in the past.

Such trends lead to rising demand for two kinds of workers in the high-demand, high-wage fields:

- a) Jobs requiring a bachelor's degree and specific technical skill training.
- b) Jobs requiring some form of post-secondary education, specific technical skill training, and additional on-the-job training.

These trends show no signs of slowing down in Texas.

Pathways to STEM Occupations



Endorsements

For the first time, students will be able to earn one or more endorsements as part of their graduation requirements. Endorsements consist of a related series of courses that are grouped together by interest or skill set. They provide students with in-depth knowledge of a subject area.

Students must select an endorsement* in the ninth grade. Districts and charters are not required to offer all endorsements. If only one endorsement is offered, it must be multi-disciplinary studies.

Students earn an endorsement by completing the curriculum requirements for the endorsement, including 4th credit of math and science and 2 additional elective credits.

Students can choose from 5 endorsement areas

Science, Technology, Engineering and Mathematics (STEM)

- Career and Technical Education (CTE) courses related to STEM
- Mathematics
- Science
- Computer Science
- Combination of no more than two of the categories listed above



North Texas Community College Consortium Transfer Collaborative

Pathways Portal

<http://ntxccc.org/pathways>

- Houses all guided pathways (academic and technical programs)

North Texas Community College Consortium
Communicating - Cooperating - Collaborating

HOME ABOUT ANNUAL CONFERENCES 2017-18 EVENTS LEADERSHIP COMMITTEES TRANSFER THE VAULT

Transfer Collaborative

Career Cluster: Agriculture, Food & Natural Resources; Architecture & Construction; Arts, A/V Technology & Communications; Business, Management & Administration; Education & Training; Finance; Government and Public Administration; Health Science; Hospitality & Tourism

Community College: Cisco College; Collin College; Dallas County Community College District; Grayson College; Hill College; North Central Texas College; Tarrant County College District; Trinity Valley Community College; Tyler Junior College

University: Midwestern State University; Tarleton State University; Texas A&M University-Commerce; Texas Tech University; Texas Womens University; University of North Texas-ATPI; University of North Texas-PACS; University of Texas-Tyler

Catalog Year: 2015-2016; 2016-2017; 2017-2018

Degree Path: - Any -

Reset

Degree	Community College	University	Career Cluster	Catalog	Degree Path	Pathway
Accounting	Dallas County Community College District	Texas Womens University	Business, Management & Administration	2017-2018	AAS-BAAS	Pathway



Why Leaders Promote Sponsored Programs?

- **Gateway to:**

- **Innovation, Creativity and Forecasting**
- **The institution's strategic approach** in identifying "**barrier breaking**" opportunities and resources
- **Expand access** to successful and impactful support services, learning and/or workforce opportunities
- **Integration** of proven practices
- **Connect and collaborate** with community and industry partners to foster student success in and beyond the classroom



Sponsored Programs



FY 2021-22 - **\$38M+** in new grant awards
57% increase over previous 5-year average



Over **8,000** students directly impacted
Over **50,000** students indirectly impacted by service improvements



Expanded partnerships in grants

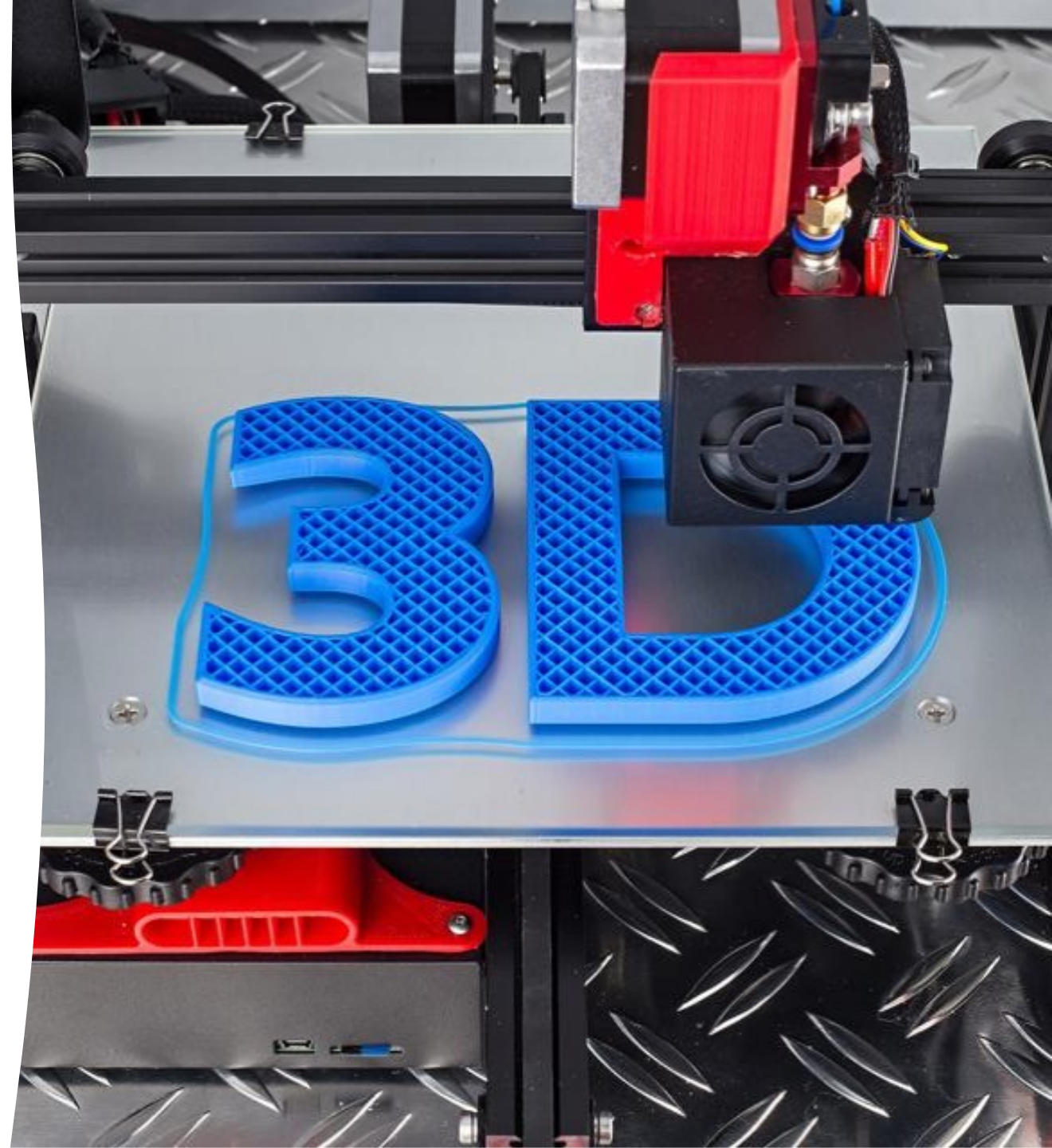
Constructioneering GATEway

- **Grant Award:** \$224,813
- **ATE Track:** Projects
- **Purpose of the project:** Engage industry to identify and create necessary interdisciplinary learning modules to educate geospatial and engineering technicians on special data technologies that support evolving civil and construction engineering.
- **Major Outcomes:**
 - 1) New Geographic Information Systems (GIS) technology funded by the project equips students with marketable skills for very broad fields and offers a flexible work environment catering to the modern working style.
 - 2) Connected student education with real-world needs via internships enabling students to learn first-hand skills in industry fields.



Bridging the Instruction-Industry Divide

- **Grant Award:** \$298,272
- **ATE Track:** Projects
- **Purpose of the project:** Engage industry partners in the development of curriculum that provides relevant instruction in current 3D technology areas with the design of courses that align with the knowledge and skills valued by experts in the field.
- **Major Outcomes:**
 - 1) Gap analysis between course content and industry needs
 - 2) Interdisciplinary modules on topics in 3D printing, scanning, and modeling to address identified gaps
 - 3) Capstone course on 3D technologies
 - 4) Bi-annual workshops for faculty professional development and a 3D Technology Conference to share project findings
 - 5) Use of results and best practices to design and propose a new industry-endorsed 3D technology certificate program.





Other NSF Projects

- **Grant Award:** \$30,000
- **NSF Project Type:** Infrastructure Program
- **Title:** Texas Oklahoma Regional Undergraduate Symposium (TORUS)

- **Grant Sub-Award:** \$1,025,532.00
- **NSF Project Type:** S-STEM
- **Title:** Computer Science as a Career (CSAC) Scholarship Program

- **Grant Sub-Award:** \$346,421
- **NSF Project Type:** LSAMP
- **Title:** LSAMP Bridges Across Texas STEM



Current NSF Pending Applications

- **Grant Award Request:** \$650,000
- **NSF Project Type:** Advanced Technological Education (ATE)

- **Grant Sub-Award Request:** \$1,000,000
- **NSF Project Type:** S-STEM in Mathematics

- **Grant Sub-Award Request:** \$10,000
- **NSF Project Type:** S-STEM Planning in Microelectronics

- **Grant Sub-Award Request:** \$125,000
- **NSF Project Type:** Regional Innovation Engines Planning Grant

- **Grant Sub-Award Request:** \$375,000
- **NSF Project Type:** Computer and Information Science & Engineering (CISE)

Navigating the NSF Application Process



TIPS

Align	Develop	Outline	Plan	Use	Check	Submit
Align the proposed project with institutional goals, priorities and targeted outcomes	Develop a team of engaged and committed leadership, subject matter experts, industry and educational partners, etc.	Outline roles of the Principal Investigator (PI) and Co-PIs	Plan a budget that includes an accurate indirect cost (IDC) estimate	Use the Proposal & Award Policies & Procedures Guide (PAPPG)	Check that Fastlane/Research.gov accounts are up to date	Submit Early