



**The Texas A&M University System
National Laboratories Office**

Texas A&M University System National Laboratories Office

Catalog of Available National Laboratory Workforce and Educational Programs

Created to aid U.S. Department of Energy (DOE) National Labs and National Nuclear Security Administration (NNSA) labs, plants, and sites in identifying educational, training, and workforce opportunities available through the Texas A&M University System (TAMUS). Additional customization is also available through collaborations with the TAMUS National Laboratories Office (NLO).

4-2-2024



Table of Contents

Student Workforce Pipeline and Educational Opportunities	3
Senior Design Capstone	3
Aggies Invent/Panthers Invent.....	3
RELLIS Academic Alliance.....	3
Trade Skill Certification- RELLIS/Blinn College	3
School of Public Health Practicum	4
Continuing Education Programs.....	5
National Security Affairs Program.....	5
Distance Educational Masters in Electrical Engineering	5
Nuclear Criticality Safety (NCS) Graduate Student Program	5
Mary Kay O’Connor Process Safety Center.....	6
PhD Interdisciplinary Engineering.....	7
Workforce and Professional Development.....	8
Design using Building Information Models and 3D Design Tools	8
Lean Six Sigma.....	8
Project Management Online Training and Test Preparation	8
Process Safety Practice Certificate for Industry Professionals	8
Professional Engineering (PE) Electrical and Computer: Electronics, Controls, and Communications	9
Professional Engineering (PE) Mechanical: HVAC and Refrigeration	9
Professional Engineering (PE) Mechanical: Thermodynamics and Heat Transfer.....	9
Professional Engineering (PE) Mechanical: Machine Design & Materials	10
Certificate in Nuclear Systems Engineering	10
TEES Facility for Advanced Manufacturing- CNC Machinist Bootcamp.....	11
Management/Leadership Programs.....	12
The Executive Leadership Development Program (ELDP)	12
Texas A&M Innovation Workshops	12
Distance Engineering Technical Management Degree Program	12
AI/ML For Technical Managers and Leaders.....	13
Leading with Emotional Intelligence.....	13
Online Master Certificate in Leading High-Performance Teams	13



**The Texas A&M University System
National Laboratories Office**

Data-Drive Decision Making Data Analytics for Managers 14

AI for Mangers and Leaders 14

Executive Leadership – Running large organization (Moving from First Line Managers to C-Level) 14

Personal and Team Coaching 14

Texas A&M Engineering Extension Service (TEEX) National Laboratory Engagement 15

 Training, Workforce and Professional Development..... 15

 Homeland Security Training..... 15

 Explosives Safety Training for National Laboratories 16

 Emergency Management and Continuity of Operations Program Support 16

 Security Training 16

 Custom Curriculum Development and Training Delivery 17

 Technical Assistance 17

 Labor Market Analysis..... 17

 Training Management Reviews 17

 Correction Action Plan (CAP) Effectiveness and Sustainability Review 18

 Confined Space Training Prop Support 18

 Leadership Program Support 18

 Facility Operations Management Professional Development 18

 Supporting the DOE/NNSA Workforce 18



Student Workforce Pipeline and Educational Opportunities

Student educational and workforce programs provide opportunities for national labs to engage with students through classwork, student organizations, guest lectures, advisory committees, and event sponsorships. Contact the TAMUS National Laboratories Office to get involved.

Find all undergraduate degree programs for further details on specific programs:

<https://catalog.tamu.edu/undergraduate/>

Senior Design Capstone

The Senior Capstone Design experience aims to bridge the gap between classroom and industry by requiring students to use their knowledge and skills to complete an engineering design project equivalent to the assignments they will soon receive as aspiring professional engineers. Projects are completed in groups, making it necessary for students to develop the skills needed to succeed in diverse industry design teams. Employers value graduates with capstone design experience because these students have gained broad experience by applying their extensive knowledge base to solve complex engineering problems as a team. Seniors also make significant professional contacts through design projects with industry participants, guest lecturers and the annual Engineering Project Showcase.

Aggies Invent/Panthers Invent

Contact: AggiesInvent@tamu.edu.

Aggies Invent is a 48-hour intensive design experience in which students in multidisciplinary teams push their innovation, creativity, and communication skills. Each event has a specific theme and is designed in collaboration with industry and faculty. Teams compete for cash awards and the best innovation. Sponsors mentor teams throughout the weekend and have judges evaluate the presentations on Sunday afternoon. These are intended to take real world problems from initial statement and prototype/resolution within the 48 hours.

RELLIS Academic Alliance

The RELLIS Academic Alliance brings together 10+ regional university partners and Blinn College District to provide an exceptional education with a seamless pathway to a bachelor's degree in high-demand career fields. This makes RELLIS one of the most dynamic and innovative destinations for 21st-century learning in the state.

Bachelor's degrees include a full range of engineering, engineering technology, computer science, cybersecurity, health, and business. [See full details here.](#)

Trade Skill Certification- RELLIS/Blinn College

The RELLIS Academic Alliance offers next-training and certifications in a variety of in-demand skills, in conjunction with Blinn College. Programs include carpentry, construction management, cybersecurity and emerging technologies academy, facility maintenance, HVAC/Plumbing/Power, welding and more. [Find out more about each program here.](#)



School of Public Health Practicum

The purpose of the Texas A&M School of Public Health (SPH) practicum experience is to provide students with an opportunity to apply the concepts, strategies and tools acquired throughout the course of their classroom studies. Regardless of the exact nature of the practicum facility, activities, preceptor, or specific student goals, the overall objectives of the experience are to:

- Expand knowledge of basic public health and health services practices.
- Increase awareness of the complexity of the problems and concerns involved in the public health and health services arena.
- Facilitate a stronger understanding of the relationships among public health organizations, health service organizations, and other governmental entities.
- Afford the opportunity to provide valuable service(s) to the host site organization by taking part in and/or completing projects or other work assignments.
- Increase appreciation of cultural differences in populations served by public health and health services professionals.
- Offer an opportunity to apply training and concepts learned in coursework.

It is not our expectation or intention that every practicum experience will serve or do all the above objectives; however, it is expected that the practicum experience will include many, if not most of these goals.



Continuing Education Programs

These programs are examples of the experience that current students or returning students can get in various areas of national security, technical expertise, and organizational management. Many of these types of programs are customizable to your organization.

Find all details regarding current masters and PhD programs at A&M:

<https://grad.tamu.edu/academics/program-directory>

National Security Affairs Program

Type: Certificate with curricular credit

The National Security Affairs Program (NSAP) is an executive-level graduate education program tailored to the needs of the Department of Energy (DOE) National Security Laboratories and Facilities. It provides selected personnel with the opportunity to explore the national security policy and the strategic dimensions of the science and technology work in which they are engaged. Staff members selected for the program are designated NSAP Fellows at the Texas A&M University's George H.W. Bush School of Government and Public Service. The program is administered by the Bush School of Government, with the International Affairs Department, and through the Bush School's Albritton Center for Grand Strategy.

Fellows complete a series of four for-credit courses, two in-residence at Texas A&M University in College Station and two remotely. They also participate in seminars and other professional development activities over a twelve-month period. NSAP Fellows who complete the full four-course program are awarded a Certificate in National Security Affairs by the Bush School of Government and Public Service.

Distance Educational Masters in Electrical Engineering

Type: Full Master's Degree

Los Alamos National Laboratory (LANL) requires distance Master's degree and Doctoral degree opportunities in Electrical Engineering in support of its aggressive staffing plan, which will allow recruitment and retention of early career researchers. LANL's R&D positions are best filled with staff possessing postgraduate degrees. Recognizing the difficulty inherent in such a targeted recruiting goal in Science, Technology, Engineering and Mathematics (STEM) fields, and with an eye towards growing these capabilities from within, the Divisions are sponsoring a graduate engineering degree program for existing and new staff. The courses shall be designed to provide employees with a solid background in electrical engineering to enhance their ability to address programmatic engineering problems related to LANL's national security mission.

Nuclear Criticality Safety (NCS) Graduate Student Program

Type: Graduate Certificate Program

The Los Alamos National Laboratory (LANL) Nuclear Criticality Safety (NCS) Division has coordinated with Texas A&M University to better prepare graduate students for careers as a Criticality Safety Analyst (CSA) by the development and execution of a graduate student NCS curriculum and corresponding graduate certificate. For graduate students, the benefit of this work is to gain knowledge, skill and experience with NCS practices in real-world applications. For the NCS Division, the graduate students will be better prepared for LANL's rigorous CSA Training and Qualification program and may be able to qualify at a faster rate. LANL NCS missions require trained and qualified staff to perform critical safety evaluations to support fissionable material operations. The operations often involve significant



The Texas A&M University System National Laboratories Office

quantities of fissionable materials in various forms, sometimes with form changes. Qualification as a CSA requires technical expertise, effective communication skills with customers, and proficiency with industry tools and administrative practices. This project and curriculum are designed to provide personnel with training and knowledge in the application of criticality safety methods and processes to practical, real-world situations at LANL, with the potential to expand this to other DOE/NNSA sites that also have this CSA need. The project has two distinct phases. During Phase 1, investigators will develop a framework for a master's level NCS curriculum with a corresponding certificate and propose experiences to support professional growth and development as CSAs. During Phase 2, the NCS graduate program curriculum will be implemented.

Center for Nuclear Security Science & Policy Initiatives (NSSPI) (3 Options)

Type: Graduate Certificate in Nuclear Security

The Graduate Certificate in Nuclear Security is an official Texas A&M University certificate program that focuses on providing students with a solid understanding of the policy and technical aspects behind nuclear security, safeguards and nonproliferation. This multidisciplinary program has courses both in the Department of Nuclear Engineering and at the Bush School of Government and Public Service. Upon completion of this program, students are uniquely qualified for positions in the federal government, national laboratories, and at the International Atomic Energy Agency (IAEA).

Classes include options in Nuclear Security System Design, Radiation Detection and Nuclear Materials Measurement, Nuclear Nonproliferation and Arms Control, Nuclear Fuel Cycles and Nuclear Material Safeguards, Nuclear Terrorism Threat Assessment and Analysis and Deterrence and Coercion.

Professional Certificate in Nuclear Security Fundamentals provides training in the areas of basic nuclear and atomic physics, basic radiation detection, nuclear security threat assessment, nuclear security culture, physical protection systems, and insider threats. It is approximately 30 hours of online coursework, for which participants can earn 3 CEUs.

Professional Certificate in Nuclear Safeguards Fundamentals covers the nuclear fuel cycle, basic and applied statistics for nuclear safeguards, nuclear material accountancy, containment and surveillance, spent nuclear fuel safeguards, and uranium enrichment safeguards. It consists of approximately 30 hours of online coursework, for which participants can earn 3 CEUs.

Mary Kay O'Connor Process Safety Center

(3 Program Options)

The [Mary Kay O'Connor Process Safety Center](#) (MKOPSC) is the world's foremost university-based Process Safety Center. The Center serves industry, government, academia, and the public. It is a resource in education and research and provides services to all stakeholders. Whether you come to us, or we bring the education to you, we help to make the industry and our stakeholders aware of the safety factors and awareness beyond regulatory compliance, whether it be through established curriculum or custom training packages.

Current educational programs include:

- Safety Engineering Certificate



The Texas A&M University System National Laboratories Office

- Master Program- The MS in Safety Engineering is administered by the Artie McFerrin Department of Chemical Engineering at Texas A&M University. The objective of this program is to teach the principles and practices of safety engineering for leadership careers in industry, academia, and government. The prerequisite for the MS in Safety Engineering program is a Bachelor Degree in Engineering.
- PhD Program- The Mary Kay O'Connor Process Safety Center supports many students conducting research related to process safety. The research spans a wide field including several engineering fields as well as organizational psychology and human factors. Engineering fields are typically chemical, mechanical, industrial and materials science. Multidisciplinary Engineering offers an opportunity to develop a customized curriculum.

PhD Interdisciplinary Engineering

The PhD in Interdisciplinary Engineering (ITDE) program allows students to develop unique expertise in emerging areas that may not be covered by traditional departmental degree programs and provides a path for those whose research interests cross engineering disciplines and/or college lines. Graduates with interdisciplinary engineering skill sets are highly sought after by employers, and the PhD in ITDE poises graduates to become leaders in academic organizations, government and industry. Examples of previously awarded interdisciplinary topics include environmental engineering and public policy as well as engineering and education.

The ITDE program is administratively housed in the College of Engineering (CLEN) under the leadership of the director of interdisciplinary engineering. Doctoral candidates in ITDE are expected to excel academically with high-quality journal publications before defending their dissertations. These candidates are further expected to establish strong relationships with industry, through internships and related activities.

This program is also approved for delivery via asynchronous or synchronous distance education technology.



Workforce and Professional Development

Design using Building Information Models and 3D Design Tools

Type: Short Course

BIM has transformed architectural and engineering practice, enabling generation and consideration of massive numbers of design options, facilitating simulation of performance, accelerating documentation, and assuring thorough coordination among the design team members. AI promises new levels of automation in all these areas.

A presentation of foundational concepts and methods in Building Information Modeling will equip a participant to apply BIM in many different areas. The course combines lectures, large group discussions, small tutorials, and laboratories using asynchronous and synchronous distance education methods. The focus is on Autodesk Revit as the most widely used BIM software system in the US market.

Lean Six Sigma

Type: Professional Development Certificate (Online and In-Person)

The Lean Six Sigma Green Belt Certificate is more than just a title, it is a way of thinking, working, and most importantly doing business. Beyond achieving a highly regarded certification in the business world, Green Belt Graduates will change their approach to problems. Green Belts will follow a systematic approach to analyze and solve problems based on data. Green Belts will choose the best solution for the problem through statistical data analysis, increasing the robustness of the project's outcome. Green Belts will understand that there is no final solution to a problem and that improvement is a continuous process.

Skills Developed

- Project and problem definition: How do you select a project?
- Process map: How does it work currently?
- Identify waste in the process
- Voice of Customer: What does your customer want?
- Data collection: Plan and analysis
- Analysis of root cause of problems
- Identify improvement opportunities
- Solution selection upon statistical data analysis
- Maintain the improvement achieved in your project

Project Management Online Training and Test Preparation

This course is designed to deepen your understanding and practical application of project management tools, methods, and processes and prepare you to successfully in obtaining the Project Management Professional (PMP®) certification.

Process Safety Practice Certificate for Industry Professionals

Type: Professional Development Certificate

The Process Safety Practice Certificate is a program that allows professionals in industry to gain a greater knowledge of process safety. This program was created for those industry professionals who want a



The Texas A&M University System National Laboratories Office

more in-depth study of process safety and can be completed fully online. A full list of requirements and coursework can be found on the [Mary Kay O'Connor Process Safety Center website](#).

Professional Engineering (PE) Electrical and Computer: Electronics, Controls, and Communications

This short course aims to prepare learners for the Professional Engineering exam.

General Electrical Engineering Knowledge

- Digital Systems
- Electromagnetics
- Electronics
- Control Systems
- Communications
- Other topics

Education Credits

6 Continuing Education Units (CEU)

60 Professional Development Units (PDU)

Cost

\$2,000/per person

Please email metm@tamu.edu for more information.

Professional Engineering (PE) Mechanical: HVAC and Refrigeration

This course aims to prepare learners for the Professional Engineering exam.

- Principles
- Basic Engineering Practice
- Thermodynamics
- Psychrometrics
- Applications
- Heating/Cooling Loads
- Equipment and Component

Education Credits

6 Continuing Education Units (CEU)

60 Professional Development Units (PDU)

Cost

\$2,000/per person

Please email metm@tamu.edu for more information.

Professional Engineering (PE) Mechanical: Thermodynamics and Heat Transfer

This course aims to prepare learners for the Professional Engineering exam.

- Principles
- Hydraulic & Fluid Applications
- Energy/Power System Applications

Education Credits

6 Continuing Education Units (CEU)



The Texas A&M University System National Laboratories Office

60 Professional Development Units (PDU)

Cost

\$2,000/per person

Please email metm@tamu.edu for more information.

Professional Engineering (PE) Mechanical: Machine Design & Materials

This course aims to prepare learners for the Professional Engineering exam.

- Principles
- Basic Engineering Practice
- Engineering Science and Mechanics
- Material Properties
- Strength of Materials
- Vibration
- Applications
- Mechanical Components
- Joints and Fasteners
- Supportive Knowledge

Education Credits

6 Continuing Education Units (CEU)

60 Professional Development Units (PDU)

Cost

\$2,000/per person

Please email metm@tamu.edu for more information.

Certificate in Nuclear Systems Engineering

Contact: ETID Ben Zoghi

1. **Systems Thinking and Analysis** - Introduction to the systems thinking process and the fundamental considerations associated with the engineering of large-scale systems, or systems engineering.
2. **Systems Engineering Methods and Frameworks** - Concepts, methodology, methods and tools for discovery, definition, analysis, design, creation, and sustainment of systems involving information, physical, and human elements; architecture modeling methods include IDEF/UPDM; systems engineering frameworks include DoDAF/MoDAF, and Zachman; analysis tools include executable architectures to assess consistency, interoperability, and performance.
3. **Fundamentals of Actinide Physics and Applications in Nuclear Engineering**, Overview of nuclear engineering systems and applications, Higher Actinides in Nuclear Reactors, Nuclear Physics of Higher Actinides, Environmental considerations relevant to higher actinides, Safety of Higher Actinides, Nuclear security and nonproliferation considerations associated with higher actinides, nuclear waste management, recycling and disposal of higher actinides.



**The Texas A&M University System
National Laboratories Office**

4. **Engineering Personal Leadership** - Development of cognitive, emotional, behavioral capabilities; identification and exploration of Emotional Intelligence (EQ) competencies; focuses on both the art and science of emotional EQ., **TCMT 619 Personal Leadership Coaching** - Engage in experiential learning, work one-on-one with a professional coach and develop a comprehensive leadership development plan based on the findings and insights from individual EQ-i 2.0 assessment report; series of interactive and reflective one-on-one sessions to understand personal emotional competencies and identify areas of improvement.

Education Credits

4.5 Continuing Education Units (CEU)

45 Professional Development Units (PDU)

Cost

\$5,000/per person

Please email metm@tamu.edu for more information.

TEES Facility for Advanced Manufacturing- CNC Machinist Bootcamp

Machining and machine tools are at the foundation of America's manufacturing capability and global competitiveness. America's Cutting Edge (ACE) is a national initiative to restore the prominence of the U.S. machine tools sector. Through ACE, participants can receive online instruction and then complete hands-on, in-person training that supports a new career path — or advancement — in the machine tool industry for free. No prior experience or education in the field must enroll in the ACE computer numerical control (CNC) machining training program.

To participate, simply register for the online module through the ACE welcome page, choosing Texas A&M University as the associated ACE program: tx.ag/ACEonline.



Management/Leadership Programs

The Executive Leadership Development Program (ELDP)

The Mays Center for Executive Development has developed an elite 12-month leadership program titled “The Executive Leadership Development Program” (ELDP). The curriculum is designed to give high-performing senior leaders the opportunity to expand their knowledge and to fill senior roles within the Los Alamos National Laboratory organization. The training enhances the succession planning strategy of the laboratory to promote continued operations to run smoothly after employees retire and leave the company. This package is custom to your organization and involves top leaders from across the organization.

Texas A&M Innovation Workshops

Type: Professional Development Certificate

Texas A&M University- College of Engineering offer two workshops entitled “IMPACT R&D” and “Agile Technology Leadership”. The purpose of these workshops is to provide training in modern innovation and technology management techniques. This will allow the laboratory technical project staff the opportunity to learn how to create an adaptive and high-performance culture geared toward speed and impact in today’s fast moving and complex technology development landscape. For laboratory staff, these workshops will foster innovation skills that will improve the pace and quality of mission innovation for DOE/NNSA and other sponsors. The workshops will be offered to laboratory nominated staff and upon completion of each workshop, students will receive a certificate of completion.

Distance Engineering Technical Management Degree Program

Type: Distance Education Master’s Degree

The Master of Engineering Technical Management (METM) program is designed for working professionals. The online program is ideal for technical workers in the early to middle stages of their careers. METM is relevant for those in electronics, manufacturing, automation, energy, process engineering and other related industrial and technology fields. The Master of Engineering in Technical Management (METM) is a part-time program, primarily taught online.

METM is a part-time program that lasts 21 months and is mostly taught online. At the beginning of each academic year, students are required to attend a one-week residency at Texas A&M University. Students will return home to complete all other courses online. This allows students to join METM while continuing to work full time.

Advantages for participants:

- Earn your degree with minimal disruption to your job and family.
- Expand your professional network.
- Immediately apply what you learn to your job.
- Be able to research current issues facing your company.
- Become a part of the Aggie network

Advantages for employers:

- Reward and keep employees by sponsoring their participation in the program.
- Access current ideas through various industry connections.
- Class projects will apply to issues within your company.



The Texas A&M University System National Laboratories Office

- Courses allow employees to further their education without interruption to their jobs.

By the end of the program, students will be able to:

- Develop a technical program for an engineering project.
- Lead and manage a diverse team of technical professionals.
- Create and put in place corporate strategic technology plans.
- Communicate with non-technical customers and colleagues.
- Have a framework for data-driven decision making.
- Manage resources and assets.

AI/ML For Technical Managers and Leaders

Prepares managers and leaders to effectively guide and lead value-generating Machine Learning and Artificial Intelligence programs in a business or organization. This class introduces and teaches foundational concepts about Machine Learning and Artificial Intelligence models, how they conceptually work at an elevated level, and which categories of problems they apply to in the real world.

Leading with Emotional Intelligence

Research shows that Emotional Intelligence can be twice as important as IQ and technical skills in deciding who will become a top performer. Enhancing Emotional Intelligence (EI or EQ) skills can have a transformative impact on you as a leader – and can transform your other life roles as well. This workshop explores the concept of Emotional Intelligence and its application organizationally, as well as personally. We will discuss how Emotional Intelligence can be used for leadership development, personal development, career development, workplace planning and building high-performance teams. Unlike IQ, EQ can be learned, developed and improved with well-designed development programs, feedback and coaching through a cluster of skills and competencies that has a great effect on leadership effectiveness.

Education Credits:

1.6 Continuing Education Units (CEU)

16 Professional Development Units (PDU)

Cost

\$2,250/per person

Please email metm@tamu.edu for more information.

Online Master Certificate in Leading High-Performance Teams

(Ben Zoghi, Ahmed Mahmoud, Virginia Swink)

here is a significant rise and importance of technical teams in driving strategy and execution. While over 90% of employees view teams as critical, only a mere 23% of them view own team as effective.

The 40-hour Leading High Performance Technical Teams Certificate program offers unique insights into world-class research and best practices on how to build, engage, and inspire teams to drive results!

Learn how to influence and communicate with a wide spectrum of technical and non-technical stakeholders and create a team culture where difficult issues and problems are addressed effectively.

Taught by industry veterans and experienced Texas A&M professors this program gives participants access to the latest scientific techniques and resources on how to transform a low or mediocre



The Texas A&M University System National Laboratories Office

performing team into a high-performing one.

Education Credits

4 Continuing Education Units (CEU)

40 Professional Development Units (PDU)

Cost

\$3,950/per person

Please email metm@tamu.edu for more information.

Data-Drive Decision Making Data Analytics for Managers

(Yuxin Yang, Mano Rao)

In every aspect of our daily lives, from the way we work, shop, communicate or socialize, we are both consuming and creating vast amounts of data. In fact, “every two days we now create as much information as we did from the dawn of civilization up until 2003.” These daily activities create a trail of digitized data that is being stored, mined, and analyzed by firms, like yours, hoping to create valuable business intelligence.

Much of the promises of such data-driven policies have failed to materialize, however, because executives find it difficult to translate data into actionable strategies. Indeed, “Data are widely available; what is scarce is the ability to extract wisdom from them.”

Data-Driven Decision Making aims to bridge the gap by instilling in executives a general intuition for data-driven decision making and equipping leaders with the tools and techniques necessary to analyze large databases and use effective data visualization to gauge key metrics.

Education Credits

1.6 Continuing Education Units (CEU)

16 Professional Development Units (PDU)

Cost

\$2,250/per person

Please email metm@tamu.edu for more information.

AI for Managers and Leaders

(David Tong)

Executive Leadership – Running large organization (Moving from First Line Managers to C-Level)

(Ahmed Mahmoud, Ruston Mody)

Personal and Team Coaching

(Ben Zoghi, Denise Pressure, Noush Bayat, Nelly Reyes, Dixie Flemming, John Hughes)



Texas A&M Engineering Extension Service (TEEX) National Laboratory Engagement

The full TEEX course catalog of open training can be found here: <https://teex.org/full-course-catalog/>.

Check out their [amazing facilities](#) and see this [example](#) of how they can be used for national lab education and training.

Training, Workforce and Professional Development

Annually, TEEX serves approximately 200,000 people representing every U.S. state and over 100 countries through on-site, mobile, and online training and technical assistance. Major TEEX programs include fire and rescue, infrastructure and safety, law enforcement, economic and workforce development and homeland security. As a member of The Texas A&M University System, TEEX is unique in its ability to access a broad range of emerging research and technical ability. TEEX designs and customizes courses, provides realistic and relevant training in-person and online and offers national certification testing.

By emphasizing safety and well-being and focusing on prevention and response, TEEX has become a comprehensive training provider through more than 80 years of extension training. Working with other agencies has led to improved fire safety and emergency response, cleaner drinking water, better roads and infrastructure, enhanced homeland security, safer workplaces, heightened public safety and security and advanced cybersecurity. Through innovative programs and adaptive outreach, TEEX services are created to train the people who expand the security, occupational and economic development of Texas and beyond.

The organizations that form the nation's Nuclear Security Enterprise (NSE) have utilized TEEX services for more than a decade, and we have strong partnerships with the Nevada National Security Site, Lawrence Livermore National Laboratory. Over the past decade, more than 2,000 individuals from 30 NSE organizations in more than 30 states have attended TEEX training in areas including:

- Explosives Safety
- Homeland Security
- Fire and Rescue
- Occupational Health and Safety Administration (OSHA)
- Cybersecurity
- Transportation
- Electrical Power and Utilities
- Environmental
- Water/Wastewater

Homeland Security Training

TEEX, along with the NNSA's Center for Radiologic/Nuclear Training at the Nevada National Security Site, are both founding members of the National Domestic Preparedness Consortium (NDPC) and have been leaders in providing homeland security training to state, local, tribal and territorial (SLTT) governments, first responders, emergency management and homeland security practitioners since 1998. Since its start, the NDPC has provided training for more than 3.6 million participants from all 50 states and U.S. territories, with TEEX training over 1 million of those participants.



Explosives Safety Training for National Laboratories

TEEX collaborated with Lawrence Livermore National Laboratory (LLNL) to develop two courses: Explosives Safety Awareness for Lawrence Livermore and Explosives Safety Applications for National Laboratories. These courses provide foundational training for High Explosives Handlers as part of the LLNL High Explosives (HE) Handler qualification process.

For decades, LLNL had conducted explosives handler training independently, but with an increase in retirees and early career researchers, it became increasingly difficult to find master explosive handler trainers to train the next generation of researchers and technicians. Paired with an increased demand for skilled handlers, an innovative approach was needed.

The ultimate charge from leadership was to “expedite the training and certification process for new employees.” After implementing the new training program, the time it took a new employee to achieve qualification decreased from more than 24 months to six months, and LLNL/TEEX trainees receive more information and experience than earlier participants. A quality foundation in explosives safety training allows workers to be better prepared and able to synthesize more specific tasks required of their day-to-day assignments while assuring senior handlers that all personnel have received the same training.

TEEX is working with the Los Alamos National Laboratory (LANL) to develop similar explosives safety courses to enhance training for employees.

Emergency Management and Continuity of Operations Program Support

TEEX has provided on-site and off-site support for the LANL Emergency Management Division since 2019. Support includes:

- A full-time TEEX employee serving as the senior drill and exercise coordinator.
- Delivering incident management and incident command training.
- Reviewing and developing emergency management and continuity of operation program plans, procedures and guides.
- Developing and delivering tabletop exercises for the LANL Executive Leadership team.
- Updating and converting several emergency management classroom courses to eLearning courses.
- Coordinating delivery of specialized response training for hazardous materials response teams, emergency operation center staff and incident command system.

Security Training

TEEX worked with LANL safety and security personnel to develop a security awareness campaign to improve the laboratory’s physical and information security efforts. This campaign consists of:

- Online micro-courses on eight to 12 security topics.
- Security reminders to provide at the beginning of meetings and to display on posters and digital banners.
- All training, digital banners, posters and meeting starters will focus on the “topic of the month.”



Custom Curriculum Development and Training Delivery

In collaboration with LANL Human Resources, TEEEX continues to help improve training quality and offer advanced professional development opportunities for LANL personnel. Course development efforts have focused on updating and revising course content and format, including revising online/web-based courses and transferring them to LANL for upload to the LANL Learning Management System.

Key improvements in course design and structure include:

- A standardized template that gives courses a modern and professional appearance.
- Improved graphics and images that make courses visually appealing and engage the learner.
- Embedded activities, quizzes and exams that provide rigor and ensure learning objectives are met.

Additionally, TEEEX provides training to LANL employees in topics such as:

- Occupational Health and Safety Administration (OSHA).
- Electrical Safety and Utilities.
- Incident Management.
- Fire Protection.
- Hazardous Materials Packaging and Transportation.

Technical Assistance

TEEX also provides technical solutions and expertise to address organizational challenges or enable mission success. With more than 500 full-time employees and approximately 800 part-time employees, including many industry experts and a robust network of partners nationwide, many recognize TEEEX as an organization that provides solutions.

Labor Market Analysis

The TEEEX Business and Cyber Solutions team conducted a labor market analysis to support immediate and long-term workforce solutions at Los Alamos National Laboratory. The analysis involved a high-level review of the internal workforce specifically focused on the craft trades, Radiation Control Technicians (RCTs) and the external regional labor market. Key recommendations were used to support LANL recruiting, hiring and retention efforts. Information included:

- Challenges to hiring, supporting and sustaining specific labor groups.
- Regional and national labor data for specified job classes critical to laboratory mission support.
- Recommendations to address specific labor challenges.

Training Management Reviews

In 2018, TEEEX was asked to conduct a Training Management Readiness Review during the LANL/TRIAD transition period. We were asked to review how training is managed across the lab, including identifying the different program areas, categories of training, training management policies and processes and tools used, to provide a broad overview of the training system. In 2024, we completed a follow-up review of these areas and provided an added review of the lab's implementation of certain elements of the systematic approach to the training process. These reviews provide insight into:

- Program strengths and weaknesses in policy, procedure and guidance.



The Texas A&M University System National Laboratories Office

- Gaps, inconsistencies and deficiencies in implementation and execution.
- Good and best practice.
- Recommendations from the review team, managers and frontline employees.

Correction Action Plan (CAP) Effectiveness and Sustainability Review

TEEX provided a subject matter expert as part of a multidisciplinary team from representatives throughout the NSE to conduct a Low O2 Alarm Corrective Action Plan Effectiveness Review. TEEX primarily reviewed actions related to incident response and reporting; supported cross-functional interviews, policy and procedural reviews; and assisted in determining effectiveness, providing additional recommendations and completing the final written and oral reports.

Confined Space Training Prop Support

TEEX leadership recognized that a seldom-used TEEX confined space training prop would resolve a critical need for the effective delivery of required safety training for LANL personnel, ensure the safety of LANL employees and improve the safe operations of the laboratory, so they donated it to LANL.

Leadership Program Support

TEEX aided LANL in preparation for hosting and supporting the Battelle Laboratory Leadership Operations Academy (LOLA) Leading in Crisis training. Cohort participants represented all eight Battelle-managed laboratories. TEEX help included:

- Developing multiple realistic crisis scenarios.
- Developing observation/assessment checklists and guides.
- Participating as observers during the event and providing feedback to participants.

Facility Operations Management Professional Development

TEEX and Los Alamos National Laboratory are collaborating on a professional development program for facility operations professionals. This program will consist of a foundational course series designed to provide new and early career staff with the fundamental knowledge and skills needed to manage facilities and effectively and safely support operations. More phases will allow for advanced knowledge or skill development in specialized tracks.

Supporting the DOE/NNSA Workforce

A shared mission links the work of DOE/NNSA labs, sites and facilities, and successful mission execution requires a trained and motivated workforce. As these organizations work together on joint projects and share best practices and personnel move between organizations in the enterprise, we envision training, including joint and standardized training, playing a key role in improving and enhancing operational performance. TEEX contributes by providing training and technical aid in the mission-enabling areas of safety, security, infrastructure, utilities, explosives safety, emergency response and management and other customized training and workforce development solutions.