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THE CENTER FOR INDUSTRIAL SERVICES (UT CIS) delivers technical assistance and training to businesses and communities throughout Tennessee. UT CIS has the real-world experience and expertise to give businesses and communities the tools they need to grow, succeed and create good jobs.

Whether you want to improve productivity on the plant floor, comply with safety or environmental regulations, sell to a government agency, introduce a new product, or improve your economic development potential, UT CIS has the expertise to help you succeed.

In addition to having a skilled and experienced staff who can help you define and solve your most pressing problems, UT CIS can connect you with the expertise of universities, federal laboratories and other resources across the country.

Since its creation in 1963, UT CIS has grown its staff of professional employees located in six offices across the state. UT CIS is an agency of the UT Institute of Public Service and houses several nationally known programs, including the NIST Manufacturing Extension Partnership, EDA University Center, Procurement Technical Assistance Center and OSHA Training Institute.
Manufacturing Excellence
UT CIS provides a wide range of technical assistance and training services to empower manufacturers. UT CIS expertise runs deep. Our experienced subject matter experts work closely with manufacturers to provide customized, hands-on solutions that boost growth, improve productivity and reduce cost.

As the state’s NIST Manufacturing Extension Partnership affiliate, UT CIS leverages university resources, government relationships and economic development partnerships to help customers achieve manufacturing excellence.

Our nine solutions consultants extend UT CIS services into every community across the state, making sure that each manufacturing customer gets the high-quality technical assistance and training it needs.

Find your local Solutions Consultant below to get started.
TECHNOLOGY-DRIVEN MARKET INTELLIGENCE (TDMI)  
Technology-Driven Market Intelligence (TDMI) is a growth service that provides a systematic and comprehensive approach to technology-focused market intelligence. Specifically, TDMI identifies the benefits and the market impacts related to your company’s technology-based asset (e.g., idea, product, process, capability) and provides the customized actionable intelligence you need. Unlike traditional market research, TDMI directly considers the technical and market viability of your asset and characterizes the associated opportunities and barriers. This combined market and technical opportunity assessment provides the intelligence you need to make accurate and confident decisions for new technology-driven products and markets.

TECHNOLOGY SCOUTING  
Technology Scouting is a service that uses a systematic approach to help manufacturing clients find existing technology solutions for their unmet company needs. Technology Scouting helps small and mid-sized manufacturers identify solutions in industries outside of their normal view—bringing a broader perspective, additional resources, new fields, and unexpected solutions. Unlike traditional, “push-based” technology transfer, “pull-based” Technology Scouting goes beyond normal channels to provide a far-reaching perspective of existing solutions to solve technology problems. With this rigorous, systematic approach, Technology Scouting taps into existing, but unknown, sources of information to find solutions that can save your company time, money, and frustration.

INDUSTRY 4.0 / ADVANCED MANUFACTURING  
With the help of the MEP National Network, manufacturers across the country are getting smart about smart manufacturing by approaching the topic through the lenses of business planning, critical thinking and cultural evolution, rather than attempting to grapple with technological change on its own. UT CIS Solutions Consultants can help demystify some of the jargon so manufacturers can focus on finding the right technologies that will help them realize their strategic vision.

CYBERSECURITY  
UT CIS utilizes the Baldrige Cybersecurity Tool developed in conjunction with the NIST Cybersecurity Framework to provide professional assessment and implementation of your company’s cybersecurity practices.
QUALITY SERVICES

**STRUCTURED PROBLEM SOLVING** | This interactive course is for personnel who must implement and maintain an effective quality system, and for those who would benefit from learning basic root cause analysis and problem-solving skills. Participants will increase their ability to apply disciplined problem-solving methods, and learn how these methods aid continual improvement and conformance with quality management standards.

**ISO 9001: 2015 STANDARD OVERVIEW** | This is an overview of requirements for successful implementation and maintenance of ISO 9001:2015 Quality Management Systems.

**ISO 9001: 2015 INTERNAL AUDITOR** | This in-depth interactive course is for those currently involved with quality auditing, and for new internal auditors who wish to become proficient using this standard. Internal auditing is among the most important steps on the road to achieving, maintaining and improving your quality.

**IATF 16949:2016 INTERNAL AUDITOR** | This in-depth, interactive course is for those involved with automotive supply chain manufacturing and quality management system audit requirements. This course helps maintain the internal audit team’s credentials or train new talent.

**SIX SIGMA GREEN BELT** | The Green Belt series of courses is intended for those interested in improving current processes. By applying Six Sigma tools to projects closely related to their current duties, Green Belts create significant, measurable impacts for businesses.

**SIX SIGMA BLACK BELT** | This series of courses is intended for those interested in improving processes in a full-time role. Black Belts might apply the Six Sigma tools to any process within an organization, helping create tremendous measurable impacts for businesses.

**CORE TOOLS** | The Core Quality Tools Training Series provides an in-depth understanding and hands-on application of the core tools. The approaches in this course are consistent with the intent and guidelines in the APQP 2nd Edition, FMEA 4th Edition, and PPAP 4th Edition manuals issued by GM, Ford and Chrysler through the AIAG.
BUSINESS GROWTH

SUPPLY CHAIN RISK MANAGEMENT | As part of the National MEP, UT CIS provides a wide range of technical and business assistance supporting the development of competitive manufacturing supply chains. As a manufacturer, your supply chain extends back through component and raw material suppliers and forward to your customers. The competitiveness of any individual manufacturer is greatly impacted by its supply base and its strategy for dealing with it.

EXPORTECH / EXPORT ASSISTANCE | Accessing growth opportunities in global markets requires a strategic approach to exports, which is why UT CIS partners with the National Institute of Standards and Technology’s Manufacturing Extension Partnership program and U.S. Export Assistance Centers to offer ExporTech.

TOTAL COST OF OWNERSHIP (TCO) | TCO is a method for quantifying the costs for every activity along the supply stream, including acquisition, transportation, storage, and selling of goods. TCO allows strategic sourcing decisions to incorporate social costs, which historically have been difficult to assess. The working session introduces a TCO calculator, which allows a side-by-side comparison of up to four suppliers and the analysis of multiple sourcing scenarios. The Total Cost of Ownership allows companies to account financially, for each activity along the supply chain including costs associated with the acquisition of materials, transportation, storage, and the selling of purchased good or services. The TCO Calculator, a key tool available only to participants of the MEP Supply Chain Optimization program, facilitates a side-by-side comparison of suppliers, analyzing multiple sourcing possibilities on a global scale. TCO helps minimize total costs while maximizing value to the customer.

OPERATIONAL EXCELLENCE / CONTINUOUS IMPROVEMENT

STRATEGIC ALIGNMENT | Strategic planning for most companies usually involves spending some time at an “off-site” location, brainstorming a few ideas, writing them down, hanging the mission statement on the office wall when you get back and putting the winning strategy, ideas and objectives into a binder that nobody looks at ever again. If this sounds familiar, then it is time to have UT CIS help you create a strategy deployment plan that gets results.

TOYOTA KATA | An element of the Toyota Production system focusing on the daily management and coaching routine that maintains focus and energy on the goal of improvement. There is activity at every process daily to advance the process toward the
vision. The Toyota Kata management method emphasizes knowledge management and how to develop the organizational capacity to innovate.

**LEAN CERTIFICATE SERIES**  | The Lean Certificate Series is a five-day “boot camp” that prepares Lean Leaders. Participants complete this training ready to take on key roles in an organization's implementation of Lean Continuous Improvement.

**LEAN LEADER SERIES**  | Lean is a systematic approach to eliminating waste and creating flow within an organization to improve overall customer value. This series of classes teaches not only the tools of lean, but also offers proven leadership techniques for implementing lean in your organization, managing culture change, and developing continuous improvement engagement throughout your workforce. This training will assist companies in saving time, money, and precious resources through creating the most efficient team possible. Benefits of implementing these techniques include coaching and developing team members who actively pursue improvement in safety, quality, productivity, and intentional employee engagement.

**LEAN MANUFACTURING OVERVIEW**  | This course demonstrates a systematic approach to reducing costs and lead times by continually reducing non-value added activities. Lean Manufacturing tools improve the flow of information and materials that will increase organizational productivity, competitiveness and profitability. With a combination of classroom training, real-world examples and hands-on simulations, participants will discover ways to identify and eliminate or reduce wastes in the manufacturing process.

**LEAN OFFICE**  | With a combination of classroom training, real-world examples and hands-on practice, discover how to identify and eliminate or reduce the waste in administrative processes. Participants learn Lean definitions, along with Lean tools and techniques such as value stream mapping for the office. By the end of the second day, participants develop a value stream map that identifies the most significant improvement opportunities.

**LEAN OFFICE FOR GOVERNMENT**  | With a combination of classroom training, real-world examples and hands-on practice discover how to identify and eliminate or reduce the waste in governmental administrative processes. Participants learn Lean definitions, along with Lean tools and techniques such as swim lane mapping to identify improvement opportunities.
VALUE STREAM MAPPING | Value stream mapping focuses on improvement efforts, and pinpoints solutions that give the most value for money, time and energy. Value stream mapping creates a material and information flow map of a product family.

WORKPLACE ORGANIZATION AND VISUAL CONTROLS (5S SYSTEM) | 5-S is an organizational technique that helps streamline the workplace. By using this systematic method, participants learn to create a safer, cleaner and more organized arrangement of the workplace with a specific location for everything. Learn to eliminate items that are not needed, and see lasting productivity improvements from these simple techniques.

KAIZEN FACILITATOR TRAINING | Kaizen events are the vehicle to implementing Lean tools and concepts. Kaizen events are well-scoped improvement efforts that utilize a team-based approach to eliminating wastes. This course is designed to teach a standard Kaizen process that can be used for implementing any Lean tool, such as quick changeover, 5-S, cellular, process layout and total productive maintenance.

QUICK CHANGEOVER/SETUP | This tool reduces the time lost to setups and changeovers while increasing the available time of production equipment. Based on principles of single minute exchange of dies (developed by Shigeo Shingo), this event uses classroom training and simulations to demonstrate methods.

TOTAL PRODUCTIVE MAINTENANCE | Total Productive Maintenance (TPM) harnesses the participation of all employees to improve production equipment’s availability, performance, quality, reliability and safety. Total Productive Maintenance helps develop the skill sets for floor managers and associates to effectively maintain manufacturing equipment at peak operating effectiveness.

TRAINING WITHIN INDUSTRY (TWI) | TWI helps develop the skill sets for floor managers and associates to effectively work within a manufacturing environment. Consider it if you are having process variation or product quality problems associated with methods or people, you are trying to standardize process operations to make them more consistent, or if employee turnover is high and you need quick, easy solutions to new employee training.

A3 STRUCTURED PROBLEM SOLVING | The A3 is an objective, pencil and paper tool designed to solve small specific problems. It defines the current condition and looks at the root cause of the issue. The A3 also guides the user to define clear steps
to implement changes and builds accountability. All work done on A3s is validated with the staff and encourages communication between workers and departments. A3s are a simple and effective way to truly understand the way work happens now and how it can be redesigned effectively.

**MISTAKE PROOFING**  |  This event provides methods for increasing the visibility of errors, improving reaction time to errors and creating systems to prevent errors from recurring.

**PULL/KANBAN SYSTEMS AND CELLULAR FLOW**  |  Pull/Kanban is based on the concept of building products based on actual consumption. The system uses visual signals when parts need to be replaced. Participants learn how to control shop floor inventory and production schedules by implementing pull systems. Cellular Flow is the linking of manual and machine operations into the most efficient combination of resources to maximize value-added content while minimizing waste.

**LEADERSHIP AND SUPERVISION PROGRAM**  |  This program is perfect for those about to move into a leadership role or current managers wishing to hone their skills. The Leadership and Supervision program allows participants to learn to be effective leaders and to be able to explore leadership and management on-the-job.

Program participants will be taught by industry leaders, experienced coaches and management professionals who will cover topics including the fundamentals of leadership, communication, coaching for improved performance, problem solving, health and safety in the workplace, resolving conflicts and more.

**DISC ASSESSMENT: SELF-AWARENESS INVENTORY**  |  The disc assessment will provide an opportunity to learn more about you, others and how to deal in situations where interpersonal relationships are involved. Your personal assessment will be used to assess one’s self and help understand how one person would be likely to react in specific team, management or leadership situations, given her or his disc style.

**ESSENTIAL SKILLS OF LEADERSHIP**  |  Essential Skills of Leadership is the first step to developing successful managers. By focusing on three critical management skills, the program establishes a methodology for productive interactions between team members and team leaders. Essential Skills of Leadership helps experienced managers, new managers, and aspiring managers refocus on the basics - the skills required to manage the individual while also leading the team.
ESSENTIAL SKILLS OF COMMUNICATING  |  Essential Skills of Communicating provides the tools necessary to develop clear, concise messages. Focusing on communication as a two-way process, the program can help even experienced managers improve their messages by making them clear, well organized and aimed at the needs and interests of the listener. By developing the essential skills of communicating, managers improve relations with their team members and increase productivity.

**TRAINING WITHIN INDUSTRY: JOB RELATIONS**  |  Job Relations training teaches supervisors how to handle problems, how to prevent them from occurring, and, most importantly, it aids in developing a logical, common sense approach to handling issues with a people-centric view. The core elements of this course are extremely conducive to teaching the basics of consensus building and individual problem solving. This course lays the groundwork upon which you can build the next step of stability into your organizations process.

RESOLVING CONFLICTS  |  Equipped with a conflict resolution process, supervisors and managers can explore and understand their employees’ inherent differences, and use them to interact in a more positive, productive way. This course will provide participants with the tools to resolve conflicts in the workplace rationally and effectively; provides tools and options to handle everyday disputes; and outlines communication techniques to provide healthy responses to workplace conflicts.

MOTIVATING TEAM MEMBERS  |  Motivating Team Members opens each leader’s thinking about the answers to how to motivate and retain employees. It explores what motivation truly is and how it works and explores how motivation is different for each individual. It helps leaders understand what they can do to create an improved work environment that will motivate members of their team. Motivating Team Members helps managers learn the four stages to influence a team member to perform a task, while creating a work environment that will motivate higher performance.

DEVELOPING AND COACHING OTHERS  |  Developing and Coaching Others educates managers to effectively and successfully develop and coach their team leaders to become better and more consistent performers. The program will help your managers learn the specifics of how they can effectively impact the learning process and coaching moments of their teams to make a marked difference and quicker performance development.
DIVERSITY AWARENESS | Diversity awareness has evolved from focusing solely on eliminating discrimination to proactively seeking inclusion. In the end, diversity is about cultivating meaningful relationships. During this course, participants will identify instances of devaluing others through small, subconscious behaviors and micro-inequities. Participants will leave this course with the knowledge of how to develop and promote an atmosphere of inclusion and respect that leads to high morale and productivity and foster a climate of inclusion, sensitivity and respect in the workplace.

SUPERVISORY FAIR AND BEST PRACTICES | State and federal legislation have covered virtually every aspect of managing. Even without laws, most of the required practices constitute sound human resource management as they involve treating people fairly. This workshop is designed to teach managers and/or supervisors the basic guidelines that should reduce potential litigation and help prevent unfair and illegal discrimination in the workplace.

LEAN MANUFACTURING & LEAN ADMINISTRATION 101 | This course will provide Lean best practices for both novice and experienced shop floor and administrative leaders/supervisors. Course participants will be prepared to identify process waste while learning opportunities to reduce overall organizational financial cost. Moreover, workshop objectives can be transferred to any process within your organization.

ORGANIZATIONAL PROBLEM SOLVING | Solving organizational problems often becomes difficult because the root cause is improperly defined or identified. In the rush to complete a project or meet the next deadline, people typically take action on the first solution that appears when multiple solutions are possible. Your ability to solve problems depends on your proficiency at addressing issues and problems as they arise as well as continually seeking improvement on existing methods and procedures.

TOYOTA KATA: IDENTIFYING STRATEGIC OPPORTUNITIES AND CHANGING WORKPLACE CULTURE | Toyota Kata is an element of the Toyota Production system focusing on the daily management and coaching routine that maintains focus and energy on the goal of improvement. There is activity at every process daily to advance
the process toward the vision. The Toyota Kata management method emphasizes knowledge management and how to develop the organizational capacity to innovate.

**QUALITY STANDARDS IN TODAY’S GLOBAL ECONOMY**  
The reality of the global market and the increased competition it has precipitated has caused many companies to look seriously at management strategies based on quality instead of quantity. This training session examines the advantages of and suggestions for implementing a quality management program.

**WORKFORCE DEVELOPMENT**

**VITAL LEARNING LEADERSHIP ESSENTIALS**  
The Vital Learning Essential Skills Of Leadership training course is the preliminary step in developing successful supervisors, team leaders and managers. Essential Skills Of Leadership™ training teaches managers and team leaders contemporary techniques for effective leadership, which improves their performance and increases the productivity of both the team and the organization.

**ESSENTIAL SKILLS OF COMMUNICATING**  
In this course participants will learn to utilize an empowering and dynamic communication process to increase team members’ motivation and commitment, construct and express clear and concise messages in both written and spoken communication, and deliver messages that address the interests of the listener. Essential Skills of Communicating also offers participants a chance to make verbal/nonverbal communication congruent to reinforce the intent of messages. Using Reflecting, Probing, Supporting, and Advising, participants will learn how to demonstrate active listening to others.

**COACHING JOB SKILLS**  
Coaching isn’t just showing employees how to do something; it involves observing, analyzing, demonstrating and providing feedback to ensure a team member’s success and skill development. The Vital Learning Coaching Job Skills™ program teaches team leaders and managers how to successfully coach team members in their jobs, as well as how to widen the breadth of team members’ skill sets. Coaching Job Skills teaches managers a process of observation, analysis and communication to help them learn how to effectively coach team members. The program provides them with implementation tools, a troubleshooting guide and additional resources to help them apply the skills they have learned on the job.

**COMMUNICATING UP**  
Communicating Up provides the tools necessary to help employees understand a senior manager’s communication style, deliver bad news with grace, communicate group or employee achievements, and maintain
the manager’s attention during a meeting. With a focus on preparation and clear commitments, Communicating Up can help even experienced managers build a more effective process for communicating and collaborating within the organizational hierarchy. The program provides them with implementation tools, a troubleshooting guide and additional resources to help them apply the skills they have learned on the job.

DELEGATING | The Vital Learning Delegating™ program teaches supervisors, team leaders and managers how to develop team members in order to strengthen their commitment to the success of the organization. A properly delegated task teaches team members accountability and responsibility, so employees feel more a part of the team and of the entire organization.

DEVELOPING PERFORMANCE GOALS AND STANDARDS | The Vital Learning Developing Performance Goals and Standards™ program equips managers and team leaders with the tools they need to succeed by aligning the team’s goals and standards with expectations set forth by the organization. By focusing on logical processes and reasonable commitments, Developing Performance Goals and Standards can help even experienced managers build a more effective process for creating goals, outlining clear work standards and encouraging better job performance. By using the SMART — specific, measurable, attainable, results-oriented and time-framed — approach with team members, managers demonstrate their commitment to an open and consistent performance improvement process. The SMART approach fully outlines organizational performance requirements, so team members understand these requirements and their own roles in the organization.

EFFECTIVE DISCIPLINE | The Vital Learning Effective Discipline™ course provides supervisors, team leaders and managers with the interpersonal performance training necessary to dramatically reduce employees’ problem behaviors. Involving team members in performance discussions and winning their commitment to behavioral change enables managers and team leaders to turn a potentially negative interaction into a positive developmental step.

IMPROVING WORK HABITS | This course provides supervisors, team leaders and managers with the tools necessary to recognize and address poor work habits. The course helps managers and team leaders understand the importance of focusing on negative behaviors as well as earning team members’ recognition of the problem and their commitment to changing their habits. Using the tools and skills learned in the course, managers and team leaders are able to improve employee productivity and
address issues before they develop into disciplinary problems that affect everyone on the team.

**MANAGING COMPLAINTS** | This program provides supervisors, team leaders and managers with a proven process and individual skills to effectively deal with employee complaints in a way that supports employee and team goals. This course makes clear that leaders need to listen to employee complaints and remain nonjudgmental, which is critical because what appears to be a minor issue to the team leader may be a major problem to the employee.

**PROVIDING PERFORMANCE FEEDBACK** | This program equips managers with a fair and fact-based collaborative model for feedback sessions that reduces the discomfort and improves the payoff from these challenging discussions, which part of every manager’s role. Because providing performance feedback is collaborative, team members intuitively agree to the process and devote their full commitment to its success.

**RESOLVING CONFLICTS** | The Vital Learning Resolving Conflicts™ program equips supervisors, team leaders and managers with the tools to recognize conflict and handle it quickly and effectively. By understanding the signs of conflict and finding the root cause, managers can eliminate the issues and minimize the negative effects. Facing conflicts directly allows leaders to preserve the integrity of their teams and demonstrate a commitment to individual performance and growth. Throughout the course, supervisors, team leaders and managers review video presentations and case studies, participate in group discussions, practice new skills, and receive immediate feedback. The program provides them with implementation tools, a troubleshooting guide and additional resources to help them apply the skills they have learned on the job.

**SUPPORTING CHANGE** | Change is an ever-present and important part of business today. This program equips leaders with the tools to understand and interpret change in order to more successfully manage their teams through it. By working to support change while addressing the team’s comfort level with it, leaders can more effectively facilitate acceptance of new ways of doing things. By understanding change, leaders can more clearly communicate it to their team members. This clear communication reduces misunderstanding and anxiety. It also helps employees accept the change initiative more quickly, thereby minimizing lost
productivity and decreased performance. Supporting Change teaches leaders how to effectively communicate change and gives them an understanding of the three phases of change, strategies for supporting change with team members and ways to deal with rumors of change.

“We did another project that helped us to streamline blocks getting in our mill and how to speed up production while making the wood flow through the mill better. It’s already making a huge impact; thousands or millions of dollars. It’s well paid for itself.”

- Waymon Scroggs, White Oak Stave LLC
Energy Efficiency & Environmental Management
Energy costs inevitably impact production costs, which means environmental issues in your plant can be opportunities to save money.

UT CIS will show you how to comply with regulations, be prepared for an emergency and increase your response efficiency. The experts at UT CIS pinpoint inefficiencies at Tennessee companies and provide detailed implementation strategies for cost-reduction. With our experienced and thorough approach to rate reduction analysis, thermal imaging, energy assessment and alternative energy options, we offer unbiased solutions with measurable economic impact.

We provide comprehensive, confidential regulatory assessments conducted by experts who remain up-to-date on state and federal regulations. You will receive a thorough, written report showing where your facility is in compliance with regulations and what you must do to bring deficient areas into compliance.

Financing Energy Efficiency Projects • Electricity Rate Structures • Lighting HVAC Performance Monitoring • Building Controls • Metering and Sub-metering Processes Demand Management and Demand Response • Solar Applications and Energy Storage • Retro Commissioning: Increasing Building Value and Building Energy Efficiency • Power Factor Correction and Harmonic Filtering • and more
ENVIRONMENTAL MANAGEMENT

REGULATORY REPORTING: EPCRA TIER II  | Learn to determine reporting requirements for the EPCRA Tier II report and to gather, organize and file information with appropriate authorities. Organizations must file an annual EPCRA Tier II report if the workplace contains an extremely hazardous substance in an amount greater than threshold planning quantities or 10,000 pounds of an OSHA hazardous substance.

INDUSTRIAL AIR REGULATIONS  | This course is for manufacturers that are constructing a new facility, modifying an existing facility, putting in a new process, installing new equipment. The trainer provides tools to help you systematic evaluate facility releases to the air and to understand basic emission calculations to determine if you need a new or updated air quality permit.

SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLANS  | To prevent oil discharges in navigable waters, your facility may need an SPCC. The plan is required for industrial, commercial, agricultural or public facilities that use, store, drill for, produce, gather, refine or consume oil or oil products. Whether you have transformers or drummed oil on-site, contact us for help in developing an SPCC plan.

ISO 14001:2018  | ISO 14001: 2018 is a mandated requirement in the automotive sector if you are a Tier I supplier and has become a significant barrier for new suppliers interested in working with Tier I suppliers or attempting to become one themselves. The 2015 standard is the latest revision from the International Organization of Standards. Within it are multiple new requirements focused on such things as improved risk management, proactive improvement principles, greater leadership responsibilities, process approaches to auditing, and a significant focus on life-cycle assessments for products being made in the 21st Century global economy.

ISO 14001:2018 NEW STANDARD OVERVIEW  | This full-day overview session will dive into the new 2018 standard. Attendees will gain an understanding of the key changes from the previous standard and be better prepared for transition.

INTERNAL AUDITOR 14001:2018 (2 DAYS)  | This class is designed to develop in-house environmental auditing capacity for industrial manufacturing sites. This class satisfies training requirements for auditors mandated by the ISO-14001:2018 Environmental Management System standard. Each student will receive a copy of the ISO-14001 environmental standard and the ISO19011 auditing standard plus 2 days of hands-on training and mentored auditing experience.
INTRODUCTION TO INDUSTRIAL WASTEWATER TREATMENT  |  This 2 day training session covers physical, chemical, and biological treatment of industrial wastewater. The first day covers industrial wastewater characteristics, pollution prevention measures, physical treatment (sedimentation, filtration, etc.), chemical treatment (metals precipitation, ion exchange, etc.), and an overview of biological treatment. The second day covers activated sludge basics, types of activated sludge processes, activated sludge microbiology, activated sludge process control, and troubleshooting. Each day ends with a hands-on case study involving use of information covered in the course.

INDUSTRIAL WASTEWATER TREATMENT WORKSHOP  |  This two-day training session covers physical, chemical, and biological treatment of industrial wastewater. The first day covers industrial wastewater characteristics, pollution prevention measures, physical treatment (sedimentation, filtration, etc.), chemical treatment (metals precipitation, ion exchange, etc.), and an overview of biological treatment. The second day covers hydroxide precipitation of metals, metals precipitation treatment options, effects of chelators on metals removal, sulfide precipitation and clarifier performance, and ion exchange/other processes for metals removal. The second day ends with a hands-on case study involving use of information covered in the course.

ENERGY EFFICIENCY

FOOD MANUFACTURING SERVICE LINE  |  We help food manufacturers identify opportunities to improve wastewater operations and to improve energy efficiency. If you are a small food manufacturer using large volumes of water or if you are a large, vertically integrated food producer with high utility bills, we can help you.
Health, Safety & Emergency Preparedness
Whether you need assistance with employee safety, emergency preparedness or regulatory compliance, UT CIS can help you find the right solutions to meet your goals.

UT CIS offers open enrollment programs across the state several times a year. All courses are taught by highly qualified, experienced instructors with decades of experience to offer to you and your staff. We have a variety of programs to deliver with minimal lead time, or we can create custom programming to meet the needs of your organization.

UT CIS values partnership and its ability to deliver quality solutions. This is why we have partnered with North Carolina State University to form the Southeastern OTI Education Center. As an OTI ED Center we are authorized by OSHA to deliver high quality, nationally recognized training to public and private sector workers, supervisors and employers. Our experienced instructors can offer these programs to you as either open enrollment or site delivered classes. The Southeastern OTI Education Center is one of only 28 centers nationwide.

Save travel costs and minimize disruption by having UT CIS deliver training at your facility. Our team offers onsite training to a variety of manufacturing, public works/utility, healthcare and public and private sector organizations. We can customize classes or create new programs to help you meet regulatory requirements or organizational missions, values and goals.

Hazardous Waste Management & HAZWOPER
Emergency Response & Preparedness
OSHA Recertification
Business Continuity
General Safety
and more
GENERAL SAFETY

COMMUNICATING DURING EMERGENCY | This workshop will review aspects needed for effective and positive communications during a stressful event. It will cover stakeholder perspectives along with employee, community and media concerns.

OSHA DISASTER SITE WORKER | Increases participants’ awareness of safety and health hazards, including CBRNE agents, which may be encountered at a natural or human-made disaster site. The importance of respiratory and other personal protective equipment and proper decontamination procedures that may be used to mitigate the hazards will be emphasized. Participants will support the use of an Incident Command System through the safe performance of their job responsibilities.

INDUSTRIAL HYGIENE MADE EASY | This four-hour workshop will cover major industrial hygiene regulatory issues, monitoring and measurement issues, instrumentation commonly used, hearing programs, and ventilation issues.

SAFETY COMMITTEE STRATEGIES | The objective of this four-hour workshop is to examine successful safety committee strategies used by Tennessee companies. The workshop examines the issues such as roles of safety committees, energizing the committee and program, interaction of top management and supervisors with the committee, VPP and SHARP safety committee requirements.

CONDUCTING WORK HAZARD ASSESSMENT | This workshop provides information and exercises to help participants identify hidden workplace hazards. CIS provides DVDs about the responsibilities of management. Participants are responsible for conducting a workplace hazard assessment and evaluating the effectiveness of the Personal Protective Equipment program.

SAFETY THROUGH TEAMWORK | This course can be used for a safety committee or team to develop skills that help them identify hazards and determine effective corrective actions. Fast-paced and interactive, the practical, four-hour course includes a safety audit and teaches attendees to: develop good communication skills, use incident investigation techniques for root cause assessment and determine effective corrective / preventive actions.

INVESTIGATION ACCIDENT BASICS | Half day workshop that covers the practical applications of an accident investigation process. We look at how to identify causes of accidents and how to develop effective corrective actions. Effective accident
investigations help companies avoid costs associated with lost-time, workers comp, and even litigation. Also covers OSHA recordkeeping basics as well.

**VEHICLE RESCUE/NFPA LEVEL 1**  |  Expands upon the principles and theory learned in vehicle rescue awareness to include safety considerations, hazard control and the team process. Highlights vehicle technology and its impact upon rescue activities as well as safety concerns.

**VEHICLE RESCUE/NFPA LEVEL 2**  |  Expands upon the lessons learned and skills developed in the Vehicle Rescue Operations program, and takes them in a multitude of directions. The focus of the program is situational problem solving and the development of the team concept.

**ROPE RESCUE 1/NFPA LEVEL 1**  |  Teaches personnel how to safely conduct basic rope rescue operations. Focuses on various knots, rescue hardware, auxiliary equipment, personal protection equipment, rope care and maintenance and standards governing basic rope rescue operations.

**ROPE RESCUE 2/NFPA LEVEL 2**  |  Upon the successful completion of this course, emergency responders will have the skills and knowledge required for certification to Chapter 6.2. “Rope Rescue Level II,” as described in the National Fire Protection Association (NFPA) 1006, Standard for Technical Rescuer Professional Qualifications (2008 edition), includes the areas of multi-point anchors, compound Mechanical Advantages (MA), highline systems, and pick-off systems.

**40-HOUR LIGHT FRAME/UN-REINFORCED MASONRY COLLAPSE RESCUE. SCR-I**  |  Provides participants with skills and cognitive sets to safely initiate and undertake rescue/recovery operations at structural collapse incidents.

**40-HOUR CONCRETE BUILDING COLLAPSE TRAINING CLASS, SCR-II**  |  The SCR-II program is a continuation class from SCR I. The SCR-II program provides students with practical and cognitive skill sets to safely undertake rescue/recovery operations in concrete/heavy wall structures.

**HAZWOPER/HAZARDOUS WASTE MANAGEMENT**

**40-HOUR HAZWOPER, HAZARDOUS WASTE SITE WORKER**  |  Learn about hazard recognition, personal protective equipment and monitoring, as well as rights and responsibilities under the Occupational Safety and Health Administration. Above
all, learn how to work safely around hazardous materials and wastes. This course meets the training requirements of the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) regulation, 29 CFR 1910.120(e)(3)(i).

**8-HOUR SITE WORKER REFRESHER (HAZWOPER)** | Under the HAZWOPER regulation 29 CFR 1910.120, workers who complete the 40-Hour Site Worker course must receive eight hours of refresher training every year. This course fulfills that requirement. Participants will review hazard analysis and recognition and be updated on new regulations.

**24-HOUR OPERATIONS LEVEL EMERGENCY RESPONSE** | Under 29 CFR 1910.120(q)(6)(ii), workers must be trained to the operations level before they are authorized to help control the spread of hazardous waste spills. In this course, students refine their ability to recognize hazards and improve their decontamination, monitoring, and safe work practices, as well as participate in full dress-out using personal protective equipment. Students must complete the medical evaluation and bring it to class.

**24-HOUR EMERGENCY RESPONSE TECHNICIAN** | If you are required to physically approach and plug, patch, or otherwise stop the flow of a hazardous substance, according to 29 CFR 1910.120 (q)(6)(iii), you must be trained to the level of technician. In this hands-on course, you learn to manage a hypothetical emergency, implement a response plan, identify and classify spilled materials, use personal protective equipment and decontaminate the site.

**8-HOUR EMERGENCY RESPONSE REFRESHER (HAZWOPER)** | This is the annual refresher training required for emergency response workers trained under 29 CFR 1910.120(q) (6). The course focuses on changes in the regulations, new technology, hazard recognition and hazardous materials response procedures.

**16-HOUR INDUSTRIAL INCIDENT MANAGEMENT SYSTEM** | This course covers the basics of an incident command system, including how to design a system, standard operating procedures, hazard and risk evaluation, site management and control, media relations, and how a system will work with local, state and federal incident management plans.

**16-HOUR DOT** | This course covers and tests all the subjects needed to fulfill the U.S. Department of Transportation (DOT) requirement 49 CFR 172.704(d)(5). Under DOT regulations, employees who impact the shipping and receiving of hazardous materials must be trained and tested, then certified by their employer. This includes workers who
prepare or sign hazardous materials/waste manifests, workers who prepare hazardous materials for shipment off-site and hazardous waste generators.

**8-HOUR DOT REFRESHER** | After completing initial Hazardous Waste Operations and Emergency Response Standard training, under 49 CFR 172.700, refresher training is required every three years. In this course, you will review material classifications, hazard communication and requirements for loading and unloading, as well as any changes to DOT regulations.

**CLANDESTINE METHAMPHETAMINE LAB DECON CONTRACTOR CLASS (24 HOURS)** | Participants who successfully complete the training and state of Tennessee prerequisites meet the training requirements to become a Clandestine Methamphetamine Lab (CML) Decontamination Contractor and certified CML Hygienist. Topics include obtaining a Certificate of Cleanliness, sampling requirements, decontamination requirements, manufacturing methods and toxicology.

**EMERGENCY RESPONSE AND PREPAREDNESS**

**8-HOUR CONFINED SPACE OPERATIONS OVERVIEW (CSO/OTI 7300)** | OSHA regulation 29 CFR 1910.146(g) requires an employer to train employees who enter, attend to or supervise confined spaces. In this introductory course, learn to identify confined spaces, the major confined space hazards, principles of ventilation, entry permitting and the requirements of a permit-required confined space program.

**16-HOUR CONFINED SPACE OPERATIONS** | This 16-hour program includes and expands upon the information provided in the Confined Space Overview Course.

**16-HOUR MANHOLE OPERATIONS AND SAFETY TRAINING** | All personnel entering utility access points, vaults or other utility installations must be trained for proper entry. Additionally, personnel on-site must be trained for rescue from these facilities. This course provides the information and practical exercises needed for safe entry operations.

**24-HOUR CONFINED SPACE RESCUE (NFPA LEVEL 1)** | For personnel who perform entry rescue services to relatively uncomplicated permit spaces, this program meets minimum requirements of OSHA 1910.146 (k) and NFPA 1670/1106. The training considers the facility’s unique confined space hazards and complexities, response plans, and the rescue team building process among varied experience levels.
40-HOUR CONFINED SPACE RESCUE (NFPA LEVEL 2)  |  This program is an advanced course for the confined space rescue technician. Program content is designed to meet the requirements of NFPA 1006 for Confined Space Rescue Technician and NFPA 1006 Technical Rescuer Level II standards. Students gain the knowledge, skill and ability to pre-plan confined spaces for rescue, manage rescue operations, control hazards, learn advanced skill in confined space rescue communications and participate in various scenarios for team building skills.

8-HOUR HEALTHCARE FACILITY EVACUATION  |  Intended to provide participants with enhanced awareness of the planning, operational and logistical requirements involved with internal, partial, or total facility evacuations in a hospital setting. The program will stress the need for developing plans that are routinely tested, and assuring these plans are integrated into community-wide and regional plans. Versions of this class include: Hospital, Nursing Care Facility, and Emergency Response Organization.

HOSPITAL DECONTAMINATION COURSE  |  This class fulfills the OSHA recommendations for training of First Receivers, as defined in OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving Release of Hazardous Substances (January 2005). The class is divided into four modules: HAZCOM awareness, decontamination practices, and practical exercises in decontamination procedures and use of PPE.

TERRORISM CONCEPTS  |  Designed to help students recognize the presence of terrorist activity, detect the presence of terror weapons, and recognize medical signs/symptoms of victims of such attacks. This course includes an overview of terrorism in the historical and modern context, explosive weapons, chemical agents, biological agents, and nuclear/radiological dispersion agents.

HOSPITAL METHAMPHETAMINE RESPONSE CLASS  |  This program is designed to increase or enhance healthcare provider awareness to hazards and issues associated with care of individuals exposed to meth, meth precursors or by-products of illegal meth production. The program provides an overview of the meth problem in the United States and Tennessee, and medical consequences of illicit meth use. Participants will learn about common meth productions and the chemical hazards associated with them. The program also covers chemical hazard analysis, and procedures for decontamination of individuals and healthcare facilities impacted by illegal meth production.

HOSPITAL INCIDENT COMMAND SYSTEM (HICS)  |  Designed for hospital staff that may function in key management roles during emergencies. Combines lecture, case
studies, and a facilitated tabletop exercise to educate and inform personnel about the value and need of HICS to better manage the incident, personnel and resources during a crisis or disaster.

**NURSING FACILITY INCIDENT COMMAND SYSTEM (HICS)**  
Every significant incident or event requires certain management functions to be performed. This program will present the critical components of the Nursing Home Incident Command System (NHICS).

**CRISIS COMMUNICATIONS FOR HEALTHCARE ORGANIZATIONS**  
Healthcare organizations must have individuals capable of performing as the “face” of their facility during periods of facility specific or community crisis situations. This program discusses the differences between “normal” and “crisis” communications, components of effective crisis communications plans, and media interaction considerations (including interview how-to’s, pitfalls, and traps). Participants will also learn the basics of developing message maps to facilitate “prescribing” of initial communications releases for high-probability or high impact events.

**RADIATION FUNDAMENTALS COURSE**  
Participants will perform mock facility preparation, utilization of PPE and radiation monitoring equipment, as well as patient decontamination procedures.

**OSHA TRAINING INSTITUTE (OTI) IN PARTNERSHIP WITH THE SOUTHEASTERN OSHA TRAINING INSTITUTE**

The Southeastern OTI Education Center is a partnership between the University of Tennessee and North Carolina State University. As an OTI ED Center we are authorized by OSHA to deliver high quality, nationally recognized training to public and private sector workers, supervisors and employers. Our experienced instructors can offer these programs to you as either open enrollment or site delivered classes. The Southeastern OTI Education Center is one of only 28 centers nationwide.

The OTI Education Centers provide training nationwide to private sector and federal personnel from agencies outside OSHA. Centers are selected based on organizational experience, staff experience, location and training facilities, marketing and recruitment, administrative capabilities, evaluation, and the ability to provide training throughout a given region. The OTI Education Centers program was created in 1992 to complement the OSHA Training Institute in Arlington Heights, Ill., which provides training and education to OSHA compliance officers.
OTI 500 TRAINER COURSE IN OSHA STANDARDS FOR CONSTRUCTION
Successful completion of this course results in participants becoming OSHA-authorized trainers in OSHA’s Outreach Training Program for the Construction Industry. Authorized trainers can conduct both 10-hour and 30-hour construction industry classes that provide training to workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces along with information regarding workers’ rights, employer responsibilities, and how to file a workplace safety complaint. OSHA-authorized trainers are able to issue 10 and 30-hour course completion cards to participants. During the course, students will develop a presentation and teach an assigned OSHA Construction Industry Outreach topic, and successfully pass a written exam. Participants will be provided with a variety of training materials and resources.

OTI 501 TRAINER COURSE IN OSHA STANDARDS FOR GENERAL INDUSTRY
Successful completion of this course results in participants becoming OSHA-authorized trainers in OSHA’s Outreach Training Program. Authorized trainers can conduct both 10-hour and 30-hour general industry classes that provide training to workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces along with information regarding workers’ rights, employer responsibilities, and how to file a workplace safety complaint. OSHA-authorized trainers are able to issue 10 and 30-hour course completion cards to participants.

OTI 502 UPDATE FOR CONSTRUCTION INDUSTRY OUTREACH TRAINERS
This course provides an update for currently authorized OSHA Construction Industry Outreach Trainers on topics such as OSHA construction industry standards, policies and regulations. Construction industry outreach trainers are required to attend this course once every four years to maintain trainer status.

OTI 503 UPDATE FOR GENERAL INDUSTRY OUTREACH TRAINERS
This course provides an update for currently authorized OSHA General Industry Outreach Trainers on topics such as OSHA general industry standards, policies and regulations. General industry outreach trainers are required to attend this course once every four years to maintain trainer status.

OTI 510 OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR CONSTRUCTION
This course covers OSHA policies, procedures, and standards, as well as construction industry safety and health principles. A copy of the 29 CFR 1926 Construction Industry Standards is included with the registration fee. Participants must successfully pass a written exam at the end of the course.
For those interested in becoming authorized to teach OSHA 10-hour and 30-hour construction classes, the OSHA #510 course meets one of two prerequisites for the OSHA #500 Trainer Course for the Construction Industry. Please note, the 30-hour Construction Industry OSHA outreach class is not considered equivalent to OSHA #510.

**OTI 511 OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR GENERAL INDUSTRY** | This course covers OSHA policies, procedures, and standards, as well as general industry safety and health principles. A copy of the 29 CFR 1910 General Industry Standards is included with the registration fee. Participants must successfully pass a written exam at the end of the course. For those interested in becoming authorized to teach OSHA 10-hour and 30-hour General Industry classes, the OSHA #511 course meets one of two prerequisites for the OSHA #501 Trainer Course for General Industry. Please note, the 30-hour General Industry OSHA outreach class is not considered equivalent to OSHA #511.

**OSHA #7410 8-HOUR EXCAVATION COMPETENT PERSON/TRENCH SAFETY (OTI 7410)** | This course covers the responsibilities of the excavation “competent person” as spelled out in OSHA 29 CFR 1926.650. Students learn the OSHA accepted soils classification methods, types of testing required, how to select protective systems, and the elements of an excavation safety program.

**CONSTRUCTION WORKSHOP SAFETY OUTREACH 10-HOUR OSHA CLASS** | This course is designed to provide workers with training on construction safety and health. It is an excellent tool for the workforce, front line supervision and anyone else who needs to understand and comply with OSHA standards and regulations. Emphasis is on identifying common hazards of the construction industry and avoidance, control and prevention of hazards techniques.

**OSHA WRITTEN PROGRAMS AND TRAINING – THE REQUIREMENTS** | More than 50 OSHA standards require written programs. This course provides an overview of these OSHA standards by covering written program basics and identifying example plans. It identifies who must be trained and identifies example training programs that can be accessed.

**OSHA 10-HOUR GENERAL INDUSTRY** | This course provides instruction on a variety of general industry safety and health hazards. It's particularly useful for those who are just entering the safety field and would like a better understanding of what is required and where to start. Course subject matter includes an introduction OSHA; OSHAct/General Duty Clause; inspections, citations and penalties; walking and working surfaces; means of egress and fire protection; and electrical. Note: Students who complete this will receive an OSHA 10-Hour General Industry card.
**OSHA 30-HOUR GENERAL INDUSTRY** | This course covers more subjects and goes into more detail than the OSHA 10-Hour. Good for safety managers and maintenance personnel as well as safety committees, etc., course subjects include Intro to OSHA, electrical, safety and health management programs, machine guarding, permit-required confined spaces and lockout/tagout. Students who complete the course will receive an OSHA 30-Hour card.

**OSHA 10-HOUR CONSTRUCTION COURSE** | This course provides instruction on a variety of construction safety and health hazards. It’s particularly useful for those who are just entering the safety field and would like a better understanding of what is required and where to start. Course subject matter includes an introduction OSHA; OSHAct/General Duty Clause; inspections, citations and penalties; Focus Four Hazards; health hazards in construction, PPE, ladders and materials handling. Note: Students who complete this will receive an OSHA 10-Hour Construction card.

**OSHA COMPLIANCE**

**FALL PROTECTION, SCAFFOLD AND LADDER SAFETY** | Awareness of ladder safety, scaffold safety, basic fall protection and equipment inspected are presented in this course applicable to new hires, those moving into an industry where they are working at heights, or personnel who may provide safety oversight.

**FIRST AID, CPR, AND AED WORKSHOP** | Participants will learn the appropriate action to take in an emergency until professional help arrives. Meets OSHA standards for first aid in the workplace.

**PERSON QUALIFIED RIGGER/SIGNAL TRAINING CLASS** | Upon completion of this class the basic qualified rigger will be able to: inspect rigging, use various types of rigging equipment and basic hitches, recognize associated hazards, and signal operations, identify and describe the use of slings and common rigging hardware, basic inspection techniques and rejection criteria used for slings and hardware, demonstrate proper use of American National Standards Institute (ANSI) hand signals. Describe basic hitch configurations, proper connections, and basic load-handling safety practices. Upon successful completion of this class, students will be qualified in basic rigging and signaling as to meet updated OSHA crane standards.

**BLOODBORNE PATHOGENS WORKSHOP AND HEALTHCARE UPDATE** | This workshop covers important issues of the bloodborne pathogens standard and explains what is required to comply. For example, the workplace must have an exposure control plan that details the procedures in place to protect employees
from exposure. This workshop also provides information on what to do if employees are exposed to bloodborne pathogens.

**TRENCH RESCUE, NFPA LEVEL 1/LEVEL 2**  Meets certification requirements for Trench Rescue operations (Level 1) or Technician (Level 2) based on NFPA 1670, 1999; NFPA 1006, 2002. Covers soil mechanics and analysis, trench assessment practices, trench protective systems, excavation safety practices, trench/evacuation dynamics, basic collapse victim care, and incident management.

**CONFINED SPACE OPERATIONS/RESCUE, NFPA LEVEL 1/LEVEL 2**  Participants will have the ability to evaluate, manage and perform a confined space rescue in accordance with NFPA 1670 and NFPA 1006.

**OSHA 7845 300 LOG – RECORDKEEPING (4 HOURS)**  Learn how to complete the OSHA 300 annual summary log and use it to target injury and illnesses. The workshop covers recording criteria on hearing conservation and musculoskeletal disorders. The workshop also covers day counts, annual summary, employee involvement, privacy protection, and information reporting to the government.

**MEDICAL WASTE WORKER**  This program fulfills OSHA HAZWOPER training requirements for operations-level personnel. The course is designed to serve individuals who collect biological or/and pharmaceutical waste in healthcare, research or other facilities. Class content covers requirements of the HAZWOPER standard, chemical hazard recognition exercises, interpretation of chemical hazard information resources, use of work-related PPE, waste/product collection procedures, and mitigation/response practices for incidental spills.
UT CIS delivers comprehensive economic development solutions for Tennessee businesses, entrepreneurs, organizations and government leaders.

By training, consulting and assisting our communities through the identification and development of economic potential, we help improve quality of life for all Tennesseans.

Leveraging research and development assets to create and retain high-quality job opportunities, we help increase capital investment statewide.

At UT CIS, our involvement in everything from small business innovation and technology transfer—to our rural entrepreneurship system and many other initiatives and services—our ongoing focus remains on helping advance the economic well-being of Tennessee.

UT CIS ECONOMIC DEVELOPMENT TRAINING 2007-2018

89 COUNTIES REACHED
93% OF PARTICIPANTS FROM RURAL COUNTIES
1426 TOTAL TN PARTICIPANTS
TENNESSEE CERTIFIED ECONOMIC DEVELOPER (TCED) PROGRAM

The Tennessee Certified Economic Developer (TCED) Program provides high quality training, continuing education and professional development opportunities to Tennessee’s economic and community development practitioners, community officials and elected officials. The program gives participants a broad-based knowledge of economic opportunities and trends, core components and tools required to compete in today’s global economy with a focus on economic development in Tennessee. The TCED certification curriculum includes the Tennessee Basic Economic Development Course and six specific subject matter courses listed below, along with an elective requirement and a Capstone Project. Courses may be completed as part of the TCED Program or independently.

REQUIRED COURSES  |  In addition to the Tennessee Basic Economic Development Course and TCED Capstone Project, participants will complete the other six courses listed in this section in order to achieve the Tennessee Certified Economic Developer designation.

TENNESSEE BASIC ECONOMIC DEVELOPMENT COURSE (TBEDC)  |  TBEDC is a four-day course accredited by the International Economic Development Council (IEDC), focuses on the fundamental concepts, strategies and tools needed to be successful in today’s complex economic environment. Topics include a basic overview of strategic planning, finance, workforce development, business retention and expansion, small business development and entrepreneurship, marketing and attraction, ethics and community development, among others.

TENNESSEE BUSINESS RETENTION AND EXPANSION COURSE  |  On average, 80% of new jobs and capital investment in a community are generated by its existing businesses. The Tennessee Business Retention and Expansion Course is a one-and-a-half day course that focuses on how to develop, implement and evaluate an effective retention and expansion program. Course topics include promoting existing businesses, addressing sudden and unexpected losses of major employers, and the importance of retooling both the workplace and workforce.

TENNESSEE ENTREPRENEURSHIP AND SMALL BUSINESS DEVELOPMENT COURSE  |  Promoting entrepreneurship and small business development is a growing strategy for job creation and economic development in Tennessee communities. The one-and-a-half day Tennessee Entrepreneurship and Small Business Development Course will explore the economic impact of small
businesses on local and regional economies; needs of entrepreneurs and small businesses and available resources to assist them; effective networks and strategies to support entrepreneurship; and small business development.

**TENNESSEE BASIC FINANCE COURSE**  |  The Tennessee Basic Finance Course is a one-and-a-half-day, hands-on course that focuses on the variety of development finance tools available in Tennessee, from bonds, tax credits, PILOT and TIF, to federal financing programs, revolving loan funds and access to capital lending resources. This course also includes an overview of Opportunity Zones. Through case studies, course participants will explore the pros and cons of utilizing the various tools in the economic development finance toolbox.

**TENNESSEE MANAGING ECONOMIC DEVELOPMENT COURSE**  |  This course is a one-and-a-half-day training that focuses on building an effective economic development organization at local, state and regional levels. Topics include examining organizational models, measuring performance, management approaches, roles of key leaders, stakeholder relations, navigating the political environment, board management, media relations and communications strategies.

**TENNESSEE MARKETING AND ATTRACTION COURSE**  |  This one-and-a-half-day, hands-on course will review the basics of developing and implementing a high-impact marketing and attraction plan. While this course emphasizes business attraction, new business development, existing business and community development are included as a part of a comprehensive approach. Course participants learn how to craft their community’s message by reviewing online marketing fundamentals, GIS technologies, website design and current trends in site selection. Participants also will explore prospect management and various mediums of communication, including how to best utilize social media and online technologies as an economic development marketing tool.

**TENNESSEE STRATEGIC PLANNING FOR ECONOMIC DEVELOPMENT COURSE**  |  The Tennessee Strategic Planning for Economic Development Course is a one-and-a-half day course that covers the steps to successfully implement a strategic planning process for your organization, your geographic area or project. Course topics include consensus building; stakeholder participation; understanding and applying economic data; developing mission, vision and goals; measuring progress; and a Best Practices panel.
TCED CAPSTONE PROJECT  | Participants apply the knowledge gained through the TCED coursework to address a substantial challenge or opportunity related to economic and community development impacting their community or organization. The Capstone Project gives participants the opportunity to contribute to the knowledge-base of the profession while also contributing to their community or organization. Capstone Project deliverables include a written report and an oral presentation.

ELECTIVE COURSES  | In addition to the Tennessee Basic Economic Development Course, six required courses and TCED Capstone Project, participants will complete at least one of the following TCED electives in order to achieve the TCEcD designation.

TN ECONOMIC DEVELOPMENT ADVANCED FINANCE COURSE  | The TN Economic Development Advanced Finance Course is a one-and-a-half-day, hands-on elective course that takes a more in-depth analysis of the economic development finance tools than other ED Basic Finance Course. The tools covered in this course include PILOT, TIF and industrial revenue bonds, as well as access to capital, revolving loan funds and federal financing programs. The course will include team exercises and case studies to help participants apply these financial concepts.

TN WORKFORCE DEVELOPMENT COURSE  | Workforce and talent development are the top challenges in economic development today. The Tennessee Workforce Development Course is a hands on course covering pertinent topics and trends such as the widening skills gap, the multigenerational workforce, the changing nature of the workplace and the importance of collaboration among allies. The one-and-a-half-day course is designed to help economic development practitioners, government officials and other community leaders at state, regional and local levels understand best practices, available resources and partnership approaches to building a competitive workforce.

TN RETAIL DEVELOPMENT COURSE  | The Tennessee Retail Development Course is a one and a half day course which focuses on how to develop, implement and evaluate an effective retail recruitment strategy. Course topics include retail trends, the impact retail has in a community, prospecting and recruiting strategies, site selection and the deal making process, among others.

DELIVERING EXCEPTIONAL CUSTOMER SERVICE  | Excellent customer service is so much more than “smile training” or implementing useful technology. It is understanding what is important to your customer and designing service to exceed
those expectations. Successful service delivery is an outcome of systems thinking. This course will be a participative learning experience with multiple opportunities to apply the principles. With a stronger understanding of customer needs and defined service standards, you will feel more comfortable delivering excellent service with the right tools and clear service expectations. Good service yields good business!

**DEEP DIVE ON TIFS & PILOTS**  
Tax Increment Financing (TIF) and Payment-in-Lieu-of-Tax (PILOT) are two of the most common economic development public financing tools used in Tennessee. This elective will enable participants to learn step-by-step processes for these two key economic development financing tools. Case studies and group projects will allow for a fun, interactive session that will promote a better overall understanding of the mechanics of TIFs and PILOTs.

The TCED courses offered through UT CIS have made a huge impact on my career. The knowledge and materials provided have been instrumental in my day to day duties in working with my counties. Attending these courses played a major role in networking with local, regional and state agencies. I highly recommend these courses.

- Bryan S. Hall, Tellico Reservoir Development Agency
Government Contracting
UT CIS – through its Procurement Technical Assistance Center (PTAC) - helps businesses compete successfully for federal, state and local government contracts. PTAC services are funded in part by the U.S. Department of Defense and provided to businesses at no charge.

Our PTAC staff have the expertise and experience to help businesses understand and navigate the government procurement process. In any given year, PTAC counselors will assist hundreds of clients in every corner of Tennessee, helping them gain contracts totaling hundreds of millions of dollars. In 2018, for example, PTAC clients were awarded 2,211 contracts worth over $530 million. These contracts led to more than 5,300 new or retained jobs.

For more information, contact Veronica Clark at vclark9@tennessee.edu, (615) 253-6381 or visit www.ptac.tennessee.edu

This procurement technical assistance center is funded in part through a cooperative agreement with the Defense Logistics Agency. For more information, contact PTAC@tennessee.edu.
They have been a tremendous resource at every stage of my company’s lifecycle. I really appreciate how they are willing to roll up their sleeves and provide valuable solutions to some of the biggest challenges we face as contractors.”

-Angela Curtis, BRAAV
GENERAL SAFETY AUDIT
CIS can conduct a “mock TOSHA audit” on-site. The audit includes a review of written and training program compliance, OSHA recordkeeping, and a safety audit walkthrough of your facility. A written report will document any findings, complete with references to the applicable OSHA standards. For more information, contact Bryan Lane. For more information, please contact Bryan Lane at bryan.lane@tennessee.edu.

CONFINED SPACE ASSESSMENT
CIS provides an assessment for companies and organizations that have employees entering or supervising confined spaces. The assessment will identify confined spaces, major confined space hazards, ventilation, entry and identification of permit required confined spaces. For more information, please contact Walter Idol at walter.idol@tennessee.edu

HAZARDOUS MATERIALS/HAZARDOUS WASTE ASSESSMENT
CIS can help you identify hazardous materials in your facility that require important OSHA and DOT training programs for workers that must handle or work with them. The company assessment also provides a review of hazardous waste generated to make sure they are treated, stored, and disposed properly according to RCRA and other regulations. For more information, please contact Chuck Gluck at charles.gluck@tennessee.edu.

ENVIRONMENTAL MANAGEMENT GAP ASSESSMENTS
A gap assessment can be used by companies wanting an independent external audit other than their registrar or customer to identify missing or possibly substandard processes in need of improvement. The assessment contains:

- your company’s baseline on management and reporting.
- a value stream map that identifies types and volumes of hazardous and solid wastes produced at every process step.
• an outcome that address your companies desired state for all of your management,
  compliance, and reporting responsibilities.
For more information, please contact Lynn Reed at lynn.reed@tennessee.edu.

LEAN MANUFACTURING ASSESSMENT
Before embarking on your Lean journey, it is important to undertake a comprehensive
diagnostic assessment of your operations and readiness for continuous improvement.
UT CIS’ Lean Assessment tool compares your current manufacturing production facility,
operating processes, and systems against best practices of companies of similar sizes
and industries, and provides you with a summary of observations and recommended
improvements to set you in the right direction for your improvement journey. Contact
your local Solutions Consultant (p.5) to learn more or schedule your assessment today.

CYBER SECURITY ASSESSMENT
UT CIS uses the NIST Cybersecurity Framework in this assessment. The framework is
a voluntary set of standards, guidelines, and best practices to manage cybersecurity-
related risk. The Cybersecurity Framework’s prioritized, flexible and cost-effective
approach helps to promote the protection and resilience of critical infrastructure and
other sectors important to the economy and national security. Utilizing the Framework
as a cybersecurity risk management tool, an organization can determine activities that
are most important to critical service delivery. Contact your local Solutions Consultant
(p.5) to learn more or schedule your assessment today.

SMART MANUFACTURING/INDUSTRY 4.0 READINESS ASSESSMENT
What does your company need to know to stay competitive and capitalize on new
opportunities? Our experts will assess your facility and create a report that will note
your strengths and weaknesses as they relate to your company’s ability to operate in the
digital manufacturing world. We will help you gain a better understanding of what Smart
Manufacturing means (Digital Manufacturing, Internet of Things, Industry 4.0, etc.), show
you how digital manufacturing will affect the manufacturing industry over the next 10
to 20 years, and explain how companies like yours can prepare for this dramatic shift.
Contact your local Solutions Consultant (p.5) to learn more or schedule your assessment
today.

COMPETITIVENESS REVIEW
Could your business benefit from an outside set of eyes looking at what you do?
Let us help you identify opportunities to improve or gaps in your systems through a
Competitiveness Review (CR). The CR is a no-fee, comprehensive business assessment
that will identify constraints and limiting factors that are holding your business back.
Contact your local Solutions Consultant (p.5) to learn more or schedule your
assessment today.
SMART TALENT SYSTEMS
Whether it’s an issue with recruiting, training or retention, gaps in your talent development program can leave your company at a disadvantage that smart business strategy or a superior product alone can’t solve. Our Smart Talent Systems is a systems approach to improving your company’s ability to attract, quickly onboard and engage new employees, and upskill your entire workforce with highly effective Structured on the Job Training, dramatically reducing training time. We help you add structure, strategy and proven tactics to every step of your talent development process, from recruiting and hiring to onboarding and on the job training and extending all the way to the creation of career ladders and succession plans. Contact your local Solutions Consultant (p.5) to learn more or schedule your assessment today.

WORKFORCE STATUS REVIEW
The Workforce Status Review (WSR) is an in-depth, focused review of the critical components of internal workforce development activities. This confidential, unbiased assessment of a manufacturer’s efforts to build a dependable team of workers, is designed to look at key areas such as the organization’s workforce development history, recruiting processes, training programs, attrition patterns, retention efforts, safety systems and the ways technology might impact the workforce. Contact your local Solutions Consultant (p.5) to learn more or schedule your assessment today.

LEAN AND GREEN ASSESSMENT
UT CIS has experienced teams who apply lean analyses to manufacturing operations and identify potential environmental cost-saving opportunities: reduction in use of toxic and/or hazardous materials, reduction in raw materials, reduction in water use, energy conservation, and reduction of solid and hazardous waste generation. We will provide you with the data and assistance to help you complete the Annual Reporting of Hazardous Waste Activities. For more information, please contact Lynn Reed at lynn.reed@tennessee.edu.

VISIT HTTPS://WWW.CIS.TENNESSEE.EDU/HOME-PAGE/UT-CIS-SERVICES TO VIEW THESE SERVICES AND MORE!
DON’T SEE THE TRAINING OR SERVICE YOU’RE LOOKING FOR?
WE CAN HELP.
EMAIL US TODAY AT CIS@TENNESSEE.EDU TO GET CONNECTED TO OUR TEAM OF EXPERTS.