

Forsyth Tech Collaborates with National Science Foundation Project to Host Convening on Future of Work

The nature of work is changing right before our eyes. The effects of accelerating technology advancements on the technician workforce are posing challenges and opportunities for community colleges whose mission includes preparing STEM technicians for the uncertain work of the future. Conversations between educators and employers are underway across the country to identify the cross-cutting knowledge and skills that will be required of STEM technicians and determine how best to equip them to remain competitive in the future workplace.



In a first-of-its-kind regional event, the National Science Foundation's Advanced Technological Education (NSF-ATE) program convened education and workforce development thought leaders to discuss critical issues surrounding preparing technicians for work of the future. Led by the Center for Occupational Research and Development (CORD) and hosted by Forsyth Tech, the November 7–8 convening in Winston-Salem included participants from industry,

workforce development agencies, community colleges, and universities from North and South Carolina. CORD is directing *Preparing Technicians for the Future of Work*, an NSF-ATE project gathering input from employers and educators across the US on technician knowledge and skills crucial to success in the Fourth Industrial Revolution (Industry 4.0) and beyond.



During the event's opening session, Matthew Carter, Vice President of Engineering Operations at Cook Medical, whose Winston-Salem site develops and manufactures devices used in gastrointestinal endoscopy, offered local industry perspectives on cross-cutting skill areas that will impact future STEM technician training.

In seeking to identify the multi-sector or interdisciplinary foundational skills that all future technicians will need, the project team has collected data from a national industry advisory group, NSF-ATE project leaders, industry and education focus groups, ongoing research efforts on Future of Work issues, existing competency models, and industry site visits featuring interviews with working technicians and supervisors.

The team found that with the unprecedented speed at which technology is changing, three broad skill areas are becoming increasingly important: Data Knowledge and Analysis, Advanced Digital Literacy, and Business Knowledge and Processes. Convening participants heard from three subject matter experts [presentations available [here](#)] who set the stage for exploration of these topics' significance.

Facilitators guided multi-sector small groups through activities examining 43 knowledge and skills topics, with an eye toward determining those already being taught and those not yet a part of the instructional landscape.

Based on input during the activities, the project team learned that about half of the identified cross-cutting knowledge and skill areas are being taught within degree programs as part of course requirements within the region. The other half of the skills are either taught in less traditional ways (i.e., bootcamps), informal learning opportunities like seminars or guest speakers, or not at all. That said, data and digital skills are beginning to permeate STEM programs, regardless of discipline, as are human (employability) skills such as communication and ethics.

If you wish to replicate the convening's activity and discussion, here's a [link to the Knowledge and Skills Inventory](#) used at the Winston-Salem regional convening. The terms and definitions in the inventory describe the new foundational knowledge that all STEM technicians will need—to some extent—to be future-ready. The activity is designed to be used in a small interdisciplinary or cross-sector group. The project team suggests facilitating the discussion with deans, technical faculty, workforce development staff, employer partners, or a combination of these, and invites you to [share](#) your insights.

The project's website, [PreparingTechnicians.org](#), can serve as a resource for your local programs as you wrestle with the need for new content and teaching

Preparing Technicians for the
FUTURE OF WORK

strategies crucial to the Future of Work. Visit the site to find helpful articles, blog posts, and podcasts that illuminate Future of Work technologies.

***Editor's Note:** The perspectives presented in this issue are solely the opinions of the authors and do not represent the position of any institution.*

For professional development resources, check out NC-NET Academy [course offerings](#) for 2019-2020.

