

## **KIMBRELL CAMPUS – FIBER INNOVATION CENTER ADDITION**

Gaston College's Kimbrell Campus will be a World-Class Fiber Innovation Center focused on advanced materials and the textile industry. The full programs and services offered at the Kimbrell Campus will become the focal point for our region and state providing advanced fiber development, high quality training, degree programs, workforce development programs, apprenticeships, and a textile academy. The Kimbrell Campus will also house a cutting-edge cybersecurity training and degree programs focused on artificial intelligence for various sectors of the manufacturing industry including textiles.

The addition of the Fiber Innovation Center (FIC) will provide industry with a state-of-the-art facility to develop and test advanced fibers for the advanced materials industry for products such as: Personal Protective Equipment, smart textiles for the defense industry, and many other proprietary products developed by our national and international partners.

The FIC will be the only facility in North America open to industry that will house the entire range of advanced fiber development capabilities able to support the industry with scalability where scientists can start with an idea, move to small-scale trials and work up to a commercially viable product ready for production. An on-site dedicated full-service lab will support development and small-scale production efforts. This innovation ecosystem is ideal for entrepreneurs, equipping creatives with viable resources and opportunities to successfully start and maintain their own business.

### **KIMBRELL CAMPUS – ACADEMIC AND INDUSTRY TRAINING PROGRAMS**

- Associate in Applied Science in Textile Technology – 2-year degree
- Associate in Applied Science in Cybersecurity – 2-year degree
- Career Now Program – AAS in Textile Technology and Cybersecurity courses for high school students career pathways
- Apprenticeship 321 – Textile Technology Technician Program for students earning apprenticeship hours with industry and college credits toward AAS in Textile Technology
- STEM courses for traditional college students and high school students earn college credits toward career pathways in textile technology and cybersecurity
- Textile robotics and automation simulation center for Textile Academy – a short-term industry supported training program
- Education and Training opportunities will be available from polymer to finished product

### **KIMBRELL CAMPUS – FIBER INNOVATION CENTER PROCESSES**

- Polymer Development Lab to include Polymer Reactor and Small-Scale Extrusion.
- Extrusion Line to include Melt Spinning, Drawing, Crimping, Cutting and Texturing.
- Spun Yarn and Filament Yarn Lines to include Opening, Cleaning, Blending, Carding, Drawing, Roving, Spinning, Twisting, Braiding and Winding.

### **KIMBRELL CAMPUS – FIBER INNOVATION CENTER EQUIPMENT TYPES**

- Fiber Extrusion – batch reactor, pelletizer, one-shot lab scale extruder, viscosity tester, melt flow tester, small scale extruder, cutting/crimping line, drawing line, false-twist texturing, air-jet texturing and covering
- Yarn Formation – opening and cleaning line, blending, short and long staple cards, combing, drawing, roving, ring spinning, compact ring spinning, Siro spinning, open-end spinning, vortex spinning, winding, braiding and twisting.
- Lab Support – polymer development, dyeing & finishing, analytical chemistry, physical testing and microscopy