As a high school student, Turner Frederick worked part-time at an auto-body shop, where he helped restore classic cars. He enjoyed working with his hands at that job, so when he graduated from high school, he was drawn to continuing his education at a technical school. Additionally, Turner is dyslexic, and he felt like he might do best earning a vocational degree.

During a tour of Texas State Technical College (TSTC) in Waco, Texas, Turner was fascinated by the technology and applications of lasers, photonics, and electronics. Inside one of the laboratories, an instructor shone a beam of white light at a prism, which split the beam into the full visible light spectrum. Turner recalls, “That was a turning point—I wanted to go to school and learn more about why it did that.” After doing some more research on his own and talking to instructors and advisors, Turner enrolled in the Laser Electro-Optics Technology program at TSTC.

Turner remembers that before he started classes, he thought the program would be “a walk in the park, and we’d get to play with lasers all day.” In reality, it was a lot of hard work in the classroom and the laboratory. His least favorite classes were in writing and communication, but he later realized how important it was to be able to write a clear report and explain technical concepts to someone who may not have the same level of understanding. Turner found his laboratory classes challenging; his writing skills got a lot of use as he prepared lab reports after completing experiments. But he also found these classes interesting—he especially enjoyed learning about the versatility of lasers. He recalls a series of eight laboratory assignments, each dealing with a different type of laser: “Each laser did something different in the industry. They used the same concepts, but with different applications.”

The most difficult part of earning his degree was the increased workload compared with high school. For Turner, going to school was like having a full-time job. The professors held their students to a high standard, testing their knowledge with exams and quizzes in addition to the labs. At times, it was a challenge to keep up, but Turner recalls thinking, “If you can make it through here, you can make it [in a career].” He worked hard and even made the dean’s list during his time at TSTC–Waco, and he graduated with an associate of applied science degree in laser electro-optics technology in 2014.

When asked what he would say to a student considering studying photonics, Turner says, “The rewards are unimaginable. It may not seem like it in school, but once you get out, the sky’s the limit.”

Turner works as a Team Lead/Field Service Technician at NovaCentrix, which sells and uses photonic curing systems and materials that are used in printed electronics. Since he began working for NovaCentrix, Turner has been promoted twice and has traveled to China to provide field service, quality control, support, and maintenance for NovaCentrix clients. He excels at his job and is repeatedly chosen for field-service situations that require dynamic analysis and response.

Turner says that in photonics, “there’s always something new to be found. It’s exciting.” He enjoys learning on the job and appreciates that photonics has opened so many doors for him. Turner would like to keep doing field-service work and travel around the country and the world for his job. He would like to go back to school at some point, possibly for a degree in engineering.

Turner Frederick graduated from Texas State Technical College in 2014 with an associate of applied science degree in laser electro-optics technology. He lives in Austin, Texas, and enjoys hiking, kayaking, and traveling.