

Photonics in Berlin

with the TCNJ-BHT Grant Program

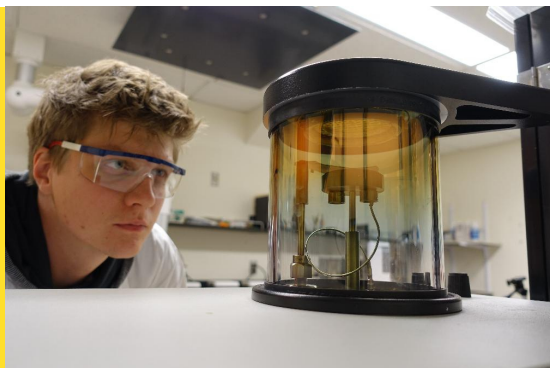
Overview

As the birthplace of photonics, Berlin, Germany is home to universities and industries focused on the science of light. In partnership with the Berlin Institute of Technology (BHT), this Summer 2022 course gives TCNJ students a hands-on survey of selected topics in modern photonics. TCNJ students will first partner with visiting BHT students for predeparture activities in Spring 2022, rejoining them in Berlin during Summer 2022. To learn more about the TCNJ-BHT partnership in photonics, go to <http://projekt.beuth-hochschule.de/elba/about-elba/>

In Berlin, the TCNJ-BHT teams will focus on lab experiences in laser technology and optical image processing, and will also visit local photonics industries such as Jenoptik and Carl Zeiss, and research institutes such as the Max Planck Institute. Students will also study the intertwined history of modern physics with Germany's tragic period of 1933-1945 through visits and guest lectures with local science and technology historians.

Course Highlights - students will:

- Experience photonics research in the Laboratory for Laser and Optics Technology at BHT
- Visit the Max Planck Institute for a seminar on "The Birth of Quantum Mechanics from the Spirit of Radiation Theory" by Dr. Alexander Blum (<https://www.mpiwg-berlin.mpg.de/>)
- Visit the Zeiss Planetarium
- Spend a day at the renowned German Museum of Technology



Academics

This is a 0.5 unit course designed for students who have completed PHY 321 - Modern Physics as a minimum, and who want and introduction to modern optical and photonic technology. For Physics majors, this course will count as 0.5 units of PHY 393 - Independent Research. Students in other majors should contact the instructor, Dr. David McGee (mcgeed@tcnj.edu), for questions about receiving equivalent course credit (e.g. ELC 470 or ELC 391) in their major department. Students selected for this study abroad course will complete predeparture laboratory training in lasers and photonics during Spring 2022.

Students will receive a partial scholarship from the German Academic Exchange Service (DAAD) for travel and living expenses, and are also eligible for a National Science Foundation-sponsored research fellowship to work in Dr. McGee's photonics laboratory for Summer 2022. This research fellowship is similar to an NSF Research Experience for Undergraduates fellowship, and pays \$6k for full time research. The research will occur on campus at TCNJ, in collaboration with our German counterparts, and is an outstanding opportunity to gain paid experience in photonics research in an international team setting.

Dates (in Berlin): May 30th - June 20th, 2022

Accommodations: Generator Hostel, Berlin Mitte (<https://staygenerator.com/>). Modern hostel, located in central Berlin.

TOTAL COST: \$3,707.92



To apply, go to www.studyabroad.tcnj.edu