

GRANT RECIPIENT REPORT

JingJing Qing GEORGIA SOUTHERN UNIVERSITY STEEL CURRICULUM DEVELOPMENT GRANT

The project goals of the Steel Curriculum Grant include: (1) Develop a senior level (undergraduate session) to a graduate-level (graduate session) course for Georgia Southern mechanical engineering and manufacturing students, which covers knowledge and skills needed by the steel and iron industry; (2) Design parallel lab activities to enhance students' learning; (3) Educate Georgia Southern University students about steel processing and help students to identify their interest in steels and irons; (4) Promote Georgia Southern students' networking with the local and nationwide steel and iron industry; (5) Maintain a good connection between Georgia Southern University and AIST Foundation and local AIST Member Chapters; and (6) Prepare Georgia Southern students to work for the steel and iron industries.

This grant has enabled the development of a new steel curriculum for the engineering students at Georgia Southern University. This course on steel heat treatment and microstructure taught by Dr. Qing has been offered three times since the fall of 2020 upon receiving this grant. Lectures and labs about steel heat treatment, steelmaking and processing, and microstructure were tailored based on Georgia Southern engineering students' background and knowledge level. Students at Georgia Southern were able to improve their knowledge of steel metallurgy and processing

through taking this class. The class enrollment size was 16 students in the 2022 spring semester. The second-year grant has been used to share the cost for purchasing a LECO Carbon/Sulfur chemical analyzer and purchase necessary supplies for the course. Students in the class toured the Nucor Steel–Berkeley steel mill recently. Georgia Southern will continue working with the AIST Foundation, AIST Southeast Member Chapter, as well as the regional industries to engage students and foster a higher population of engineers for the iron and steel industry. ♦



Professor Jingjing Qing and Georgia Southern students toured the Nucor Steel–Berkeley facility.