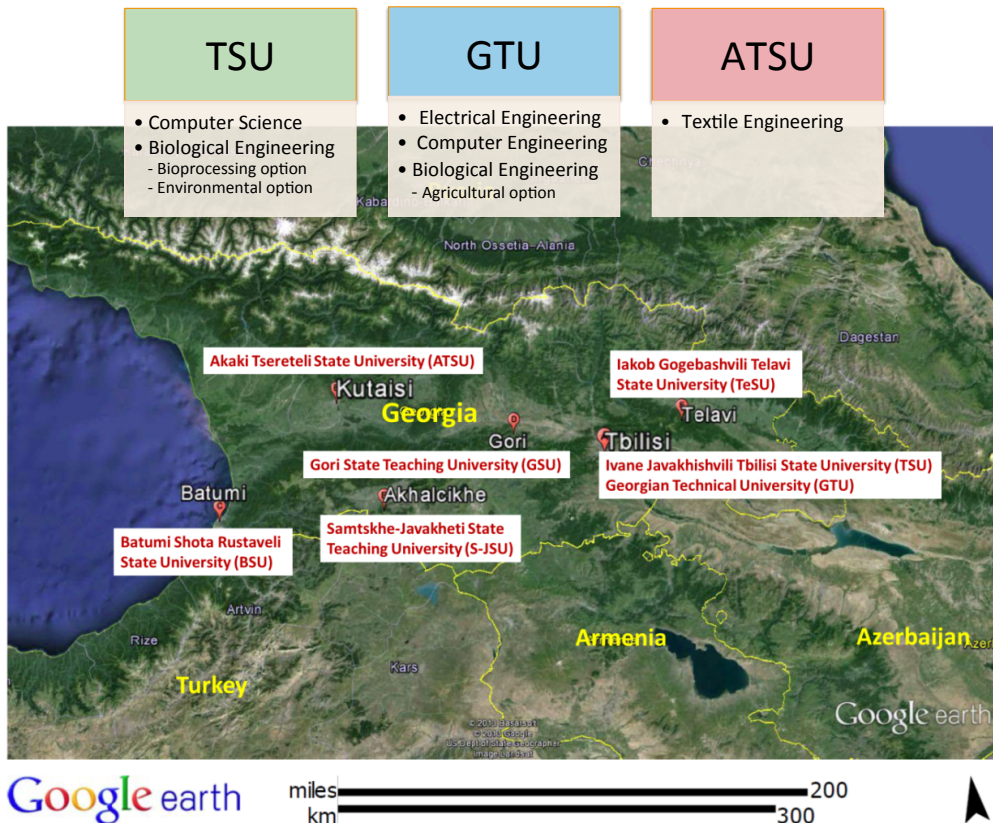


## Millennium Challenge Corporation for the higher education project in Georgia



North Carolina State University (NC State; NCSU), in partnership with Auburn University (AU), CRDF Global, the Georgia Research and Development Foundation (GRDF), and a selected group of Georgian institutes of higher education are pleased to submit this proposal, “US-Georgia Higher Education Alliance (USGHEA)”, in response to the solicitation by the Government of Georgia and Millennium Challenge Corporation to advance higher education in Georgia. The Alliance proposes a capacity-building program that will result in development of state-of-the-art engineering education. The Alliance will strive to meet Georgia’s need for a highly educated engineering and science workforce meeting international quality standards. The proposed program, to be undertaken by a consortium of the U.S. universities in partnership with Georgian state-owned public universities, will implement five dual-degree BS engineering programs.

We propose an experienced, flexible and unique Alliance to undertake this project. NC State University, the lead institution, in partnership with Auburn University, will develop ABET (Accreditation Board for Engineering Technology) accredited engineering degree programs in Georgia. CRDF Global, an independent US government authorized non-profit dedicated to promoting international science and technology, will implement a Virtual Science Library that will significantly increase availability and affordability of published information, and provide program evaluation that will support the accreditation process. GRDF, a non-profit located in Georgia, will provide logistical support and coordination for Alliance operations.

The proposed programs will be opened in seven Georgian partner public universities which are situated in different regions of Georgia: Ivane Javakishvili Tbilisi State University (in Tbilisi), Georgian Technical University (in Tbilisi), Akaki Tsereteli State University (in Kutaisi), Batumi Shota Rustaveli State University (at the Black Sea coast), Iakob Gogebashvili Telavi State University (in Kakheti), Gori State Teaching University (in Kartli), and Samtskhe-Javakheti State Teaching University (in Javakheti). Three partners (TSU, GTU, and ATSU) will offer dual-degree programs with NCSU. The four other regional partners (BSU, TeSU, GSU and S-JSU) will offer Associate degrees that will transfer to the dual-degree BS programs. The degree programs have been selected based on the existing facilities at the individual partner institutions, and in response to both local and national private sector needs. By partnering with institutions situated both centrally in Tbilisi and throughout the rest of the country, we will leverage the full range of existing expertise in Georgian universities, and will be able to tailor programs specifically to the needs of particular regions.

Responsibilities of team members are more fully delineated in the full proposal, but a brief description of responsibilities is:

- NCSU will be the coordinating entity of the Alliance. NCSU will also be responsible for the financial management of all funds that are paid by any entity to support Alliance programs.
- NCSU will offer five ABET accredited engineering BS degree programs in Georgia, in cooperation with Georgian partner institutions. NCSU faculty will offer engineering courses through flipped classroom and other distance education methods, with assistance from faculty at three Georgian partners: TSU, GTU, and ATSU. NCSU will lead renovation and equipping of teaching laboratories associated with the engineering courses.
- NCSU will train a cohort of Georgian faculty at all seven partner institutions to offer STEM and general education courses required for the ABET accredited engineering degrees. NCSU will also lead classroom renovations and faculty training to provide modern pedagogical methods and state-of-the-art educational equipment for these courses.
- NCSU and AU will aid Georgian institutions in strengthening their own engineering curricula to receive ABET accreditation.
- AU will provide ESL (English as a Second Language) training and remedial programs in science and math subjects, in collaboration with Georgian partners.
- CRDF Global will provide project-management support for operating in Georgia, including building collaborative relationships with in-country partners, GRDF, and various ministries. CRDF Global also will provide program support, monitoring and evaluation, and fundraising to support student research, mobility, and scholarships.
- CRDF Global will develop and maintain a Virtual Science Library Program (VSL) and other related educational training for faculty, student and scholar support.
- GRDF will assist in coordinating Alliance meetings and operations. GRDF will provide logistical support for student and faculty mobility between the U.S. and Georgia, and provide support to NCSU in collecting and disseminating funds and other resources necessary to maintain Georgian partner operations.
- Faculty at Georgian partner institutions will deliver undergraduate courses to satisfy math, science, and general education requirements. Georgian faculty will collaborate in the development of Distance Education (DE) versions of NCSU courses in the five engineering curricula, and will serve as on-site facilitators for those courses in Georgia.

The Alliance's 20-year plan for engineering BS program development is based on the country's labor needs and the high rate of growth in specific engineering fields anticipated both locally and nationally. The academic programs developed by the Alliance will:

- Meet the national needs of Georgia;
- Satisfy the labor requirements of the region;
- Strengthen a technology base in the region, drawing upon the talents and strengths of the Georgian partner institutions;
- Leverage the complementary expertise of NCSU/AU and Georgia partner institutions;
- Reflect the direction of the global information economy.

The proposed plan will be executed in the following three phases:

*Phase 1 (Years 1-3): Capacity Building* -- Georgian faculty from the seven partner institutions, in the fields of math, science, and humanities, will participate in course development and training activities led by NCSU. Renovations for classrooms and teaching laboratories are carried out at partner institutions. Three cohorts of faculty from TSU, GTU, and ATSU will travel to NC to collaborate with NCSU faculty on the DE versions of specialty engineering courses. Selected graduate students from each engineering program, who agree to return as faculty in the Georgian programs, will enroll in the PhD program at NCSU. Recruiting efforts are initiated to attract top-tier high school students for the programs. In Year 2, the first cohort of students is admitted, and will take math, science, and general education courses at the partner universities. At the end of Year 3, these students will be ready to transfer into the engineering courses at ATSU, GTU, and TSU. Assessment teams are set up for each Georgian program to prepare for accreditation. Industry partners will be recruited for scholarships, internships, senior design projects, and eventual employment of program graduates.

*Phase 2 (Years 4-6): Scaling Up* -- NCSU faculty will begin offering DE courses at the Georgian partner universities, in collaboration with on-site Georgian faculty. Georgian PhD students complete their degrees and assume faculty positions at the Georgian partners. Recruiting efforts will be assessed, especially in terms of recruitment of women, minorities, and socially disadvantaged, and adjusted if necessary. At the end of Year 5, the first dual-degree students will graduate. For all GE Programs seeking ABET accreditation, assessment of the student outcomes and Program educational objectives will be conducted. At the beginning of Year 7, all five programs should have reached their target enrollment capacities.

*Phase 3 (Years 7-20): Sustainability* -- By Year 7, the programs should all be self-supporting and operating at target capacity. A steady pipeline of high-quality students and graduates will be passing through the dual-degree and GE-only programs. Early in this phase, a Self-Study report will be prepared for the Georgian programs seeking ABET accreditation, and a formal request for evaluation (RFE) will be initiated. NCSU, AU, and GE partners will continue to collaborate on instructional development, and we expect that research collaborations will also emerge, especially with the new Georgian faculty who earned PhD degrees at NCSU.

# Program Sustainability in Year 7

