Georgia Gwinnett COLLEGE

Georgia Gwinnett College Capability Statement

Institution: **Georgia Gwinnett College**

UEI No: **JERJUDKCYLE3**   Federal EIN No: **27-0124698**   Cage Code: **54K45**   SIC: **0000**

NAICS ID(s): **6113**

Certificates, Registrations, Accreditations: *SACSCOC, CSWE; CACREP, ACBSP, NCATE; RFEPAC; ACEN; ACS*

POC Information: **Lourdes L. Bastas, Ed.D, Director Office of Research and Sponsored Programs, B-3050,1000 University Center Lane, Lawrenceville, GA 30043**
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OVERVIEW

Georgia Gwinnett College (GGC) is a public, four-year access institution in the University System of Georgia. Assigned faculty mentors for every student, innovative uses of educational technology in and out of the classroom, a carefully selected faculty devoted to teaching and student engagement, a strong emphasis on small class sizes, and extensive learning support and tutoring programs are hallmarks of the GGC approach to transforming public higher education in the 21st century. In Fall 2023, GGC had a student count of 11,918 with top 4 demographics of Black: 32.3%, Hispanic: 28.5%, White: 21.5%, Asian: 12.4%. Additionally, 59.2% of student population were Female.

RESEARCH CAPABILITIES

Chemistry Research:

- Chemical Research
- Development of sustainable catalyst systems
- Computational Research
- Environmental Chemistry Research (water and air quality studies)
- Green Chemistry Research

Information Technology Research

- Software development and engineering
- Algorithms development
- Systems and cybersecurity
- Cloud computing
- Game development
- Mobile app development
- Societal impact
- Artificial intelligence
- Distributed computing
- Digital design and UI/UX design
- Computer Graphics and 3D modeling

Physics Research:

- Computational Physics
- Bio-Physics
- Statistical mechanics
- Theoretical and Exp. Astrophysics
- Condensed matter physics
- Physics inspired Artificial Intelligence

Biology: To be updated

Environmental Science: To be updated

Exercise Science: To be updated

Center for Environmental Science & Sustainability: To be updated

FACILITIES

Chemistry

- Major equipment and instrumentation include:

o   computers driving the Vernier LabQuest system with an assortment of digital probes and devices, PerkinElmer Spectrum One FTIRs, bench-top Fisher FT-IRs, Varian Cary 50 Bio UV-Vis's, Agilent UV-Vis Spectrophotometers, Shimatzu QP2010S GC-MS, Shimadzu 17A GC, GOW-MAC GCs, Scientific Repair Inc. TCD Educational GC, Jade PerkinElmer DSC, Varian AA240FS AA, Electrothermal Digital Mel- Temps, Parr Microscale Solution Bomb Calorimeter, PerkinElmer Lambda EZ150 UV-Vis with thermal control, 90 MHz Anasazi NMR with 1H and 13C probes, bench-top 45 MHz Fisher 1H NMR, PerkinElmer NexION 2200 ICP-MS, Agilent 1260 HPLC System (LC ChemStation), milli-torr Schlenk line, a computational cluster for ab initio, molecular dynamics,

PerkinElmer TGA 4000 and PerkinElmer IR Instrumentation with 10 cm gas cell), Agilent G7100A Capillary Electrophoresis System with Lab Advisor Advanced Software, M8380AA OpenLAB CDS Chemstation Edition and M8501AA OpenLab CDS Instrument Driver, and cyber-shared programs for computational chemistry, and various smaller supporting instruments and equipment for experimental chemistry.

Information Technology
- Digital Media Lab with Equipment: 3D printers, VR headsets, Mac desktop computers, MacBook Pros, digital cameras, HoloLens, Sound booth, etc.
- Networking Lab: Server racks for faculty to teach and perform research in networking and security.

PAST PERFORMANCE

Grants from NSF: 14 NSF grants totaling $3,838,4591
- MRI: Acquisition of an Atomic Force Microscope for interdisciplinary undergraduate research at Georgia Gwinnett College, Award Number:1621665; Award Amount: $148,443.00; Relevance:93.95;
- MRI: Acquisition of Total Organic Carbon/Total Nitrogen Analyzer for Interdisciplinary Research and Teaching at Georgia Gwinnett College, Award Number:1826920; Award Amount: $39,931.00; Relevance:93.95;
- MRI: Track 1 Acquisition of an ICP-MS for Interdisciplinary Undergraduate Research Award Number:2317021; Award Amount:$203,047.00; Relevance:90.6;
- Southeast Regional PULSE Conference Planning Meeting, Atlanta, GA, August 9-11, 2013 Award Number:1348979; Award Amount:$20,740.00; Relevance:88.96;
- An Institutional Model for Increasing Student Engagement through Course-embedded Undergraduate Research Experiences, Award Number:1623779; Award Amount:$1,629,820.00; Relevance:88.78;
- ADVANCE Catalyst: Reflecting, Assessing, and Improving Intersectional Equitable Practices with STEM Faculty Award Number:2216872; Award Amount:$300,000.00; Relevance:88.45;
- RUI: Extraction, Purification and Characterization of the Interaction Between Cyclotide and Cyclotide Aggregates with Lipid Bilayers, Award Number:2107567; Award Amount:$260,968.00; Relevance:86.2;
- Renovate A1190 Chemistry/Biochemistry Research Lab, Award Number:0962729; Award Amount:$205,653.00; Relevance:85.94;
- BPC-DP: Developing a Framework and Community for IT Outreach, Award Number:2315804; Award Amount:$300,000.00; Relevance:85.91;
- HSI Pilot Project: Improving Experiential Skills for a Diverse Software Engineering Workforce via Project-based Internships, Award Number:2345141; Award Amount:$200,000.00; Relevance:85.62;
- Authentic STEAM-based Computer Science Education for Non-Majors, Award Number:1504293; Award Amount:$249,679.00; Relevance:85.06;
- DIYModeling - Do It Yourself Modeling and Simulation for STEM Learning, Award Number:0920815; Award Amount:$30,000.00; Relevance:83.13;
- Microbial Genome Sequencing: Phage Genome Sequencing for Student Biotech Training, Award Number:0806694; Award Amount:$50,188.00; Relevance:83.13;
- A Holistic Approach to Improve Learning and Motivation in Introductory Programming with Automated Grading, Web-based Team Support, and Game Development, Award Number:2345097; Award Amount:$200,000.00; Relevance:83.09;

Grants from University System of Georgia:
There are several grants relating to the development of Open Education Resources. The online listing is available at https://www.affordablelearninggeorgia.org/grants/archive/