



Capability Statement

Institution: **Grambling State University**

DUNS No: **939855565** Cage Code: **OJG81**
NACIS ID(s): **236118, 512290, 541711, 541712, 711120**
SIC: **8221**

Federal EIN No: **72-6000751**

Certificates, Registrations, Accreditations: **ABET-ETAC, ABET-CAC, ACS, AACSB, NASPAA, NASM, NCATE, NAST, ACEN, CSWE, ACEJMC**

POC Information: **Connie Walton, Ph.D., Interim Director of Sponsored Programs**
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OVERVIEW

Grambling State University is a Historically Black University that was founded in 1901. The University offers baccalaureate, masters, and doctoral degree programs. Grambling State University is accredited by SACS-COC. As a component of its mission, the University seeks to provide opportunities for students to develop intellectually and to acquire appropriate career skills through instruction, research, public service, and special programs. Attorney Richard (Rick) Gallot was appointed as the 10th president of Grambling State University on August 1, 2016.

RESEARCH CAPABILITIES

Biomedical: Toxicology and genomics to understand how molecular events lead to cancer, cellular mechanisms to understand disease development/progression, mapping protein-DNA interactions of nuclear cyclin D1 in distinct cancer systems

Business: E-commerce, entrepreneurship, leadership training, operational excellence, logistics

Engineering Technology: construction engineering technology, electronics engineering technology

Cybersecurity/Big Data: Cognitive radio network security, high performance GP-GPU computing in federated hadoop systems, deep learning & anomaly detection, game models, backpropagation models-neural networks, cloud data security

Education: Social and economic predictors of postsecondary students' educational outcomes, methods to teach mathematical concepts

Material Science: Materials synthesis using additive manufacturing techniques, ultra-high temperature ceramic composites, nanoporosity in polymers and vacancy defects in metals, crystal phase composition, nanoparticle size analysis, micro-hardness analysis, magnetization studies, polymer synthesis

Mathematical Biology: Deterministic mathematical and stochastic models to study the spread of infectious diseases such as malaria, HIV, and typhoid

Molecular Modeling: Study of charge transport and their relation with structural properties of polymer and polymer composites using quantum mechanics and Monte Carlo-based computational methods. Study of molecular transport in nanostructures using stochastic models

Public Health: Models for addressing low health literacy in Cameroon and Sub Saharan Africa, influence of stress on Type 2 diabetes

FACILITIES

Engineering Technology Facilities – 3 D Printers, Cisco Academy Lab, Architectural Design Lab, Circuit Analysis/Design Lab, Programmable Logic Control Lab.

Material Science Instrumentation – Positron Lifetime Spectroscopy, Differential Scanning Calorimeter/Thermal Gravimetric Instrument, Thermomechanical Analysis Instrument, Fourier Transform Infrared Spectrometers, UV Visible Spectrophotometer, Atomic Absorption Spectrometer, Gas Chromatography/Mass Spectrometer, Continuum FTIR Microscope, Energy Dispersive x-Ray Spectrometer, Magneto-Sputter Coater, Polarizing Optical Microscope Equipped with a Hot Stage, Vibrating Sample Magnetometer, Squid Magnetometer, Scanning Electron Microscope

PAST PERFORMANCE

NASA- Minority University Research and Education Project (MUREP) Educator Program- Minority participation for future NASA workforce: Curriculum improvement, 2-year to 4-year college bridge program.

DOE-Energy Frontier Research Center (EFRC): Center for Atomic Level Catalyst Design of Nano-Catalysts- Role of microstructure/nanoporosity and atomic structure in activation, deactivation, and temporal stability of catalyst/support systems for fuel conversion.

DOE-Development of low cost membranes for H₂/CO₂ separation in WGS reactors. Synthesis of low temperature bimetallic nanocatalysts for Water Gas Shift reaction (WGS) for hydrogen production from CO and steam mixture; and develop low-cost metal (Nb/Ta)/ceramic membranes for H₂ separation and Cellulose Acetate membranes for CO₂ separation

Air Force Research Laboratory-Design and Implementation of a Cognitive Radio Cloud Network
High Performance GP-GPU Computing in Federated Hadoop Systems
Advanced Ceramic Materials Processing and Characterization Using Positron Lifetime Spectroscopy, SEM, Micro-hardness, and FT-IR