DATA ANALYTICS FOR WATER RESOURCES CGS

All students must meet the Requirements for Certificate of Graduate Study.

OVERVIEW

The aim of the Certificate of Graduate Study (CGS) in Data Analytics for Water Resources program is to educate students on understanding and developing advanced methods (e.g., physics- and process-based modeling, statistical, machine learning, deep learning and data visualization methods) to address critical water resources challenges such as: Drinking water treatment and access, Recovery and treatment of wastewater, Surface and groundwater management, and Adaptation to climate change and other hazards.

SPECIFIC REQUIREMENTS

Minimum Degree Requirements

The CGS in Data Analytics for Water Resources requires 12 credits (four courses). Two of those courses are the core courses that all students must take, while the other two courses can be taken from a list of electives. Students must maintain a 3.0 average in these courses to receive the CGS.

Requirement Description		Credits
Required Core Coursework (6 credits):		
STAT 5870	Data Science I	3
CEE 6610	Data Analytics Water Resources	3
Electives (6 credits, at least 3 of which must be from an Applications Category)		
Applications		
CEE 5550	Phys/Chem Proc Water/Wstwater	
CEE 5600	Principles of Hydrology	
CEE 5620	Advanced Hydrology	
CEE 5650	Groundwater Hydrolo & Modeling	
CEE 5630	Applied River Engineering	
CEE 5660	Climate Change Impacts	
GEOL 5405	Gr Geochem of Natural Waters	
ME 6230	Advanced Fluid Dynamics	
GEOL 5405	Gr Geochem of Natural Waters	
GEOL 5510	Gr Geomaterial Analysis	
GEOL 6400	Topics in Envt & Surface Geo	
Skills		
STAT 6300	Bayesian Statistics	
STAT 6870	Data Science II	
CEE 7900	Uncertainty & Risk in Eng Sys	
CEE 7920	Appld Artificial Neural Ntwrks	
CEE 7980	Applied Geostatistics	
CS 5540	Advanced Machine Learning	
CS 6520	Evolutionary Computation	
CS 6540	Deep Learning	
NR 5450	Data Vis & Communication	
BIOL 6100	Computational Biology	
NR 5450	Data Vis & Communication	
NR 5460	Geospatial Computation	