# State of North Carolina Paid Summer Internship

**Eligibility Requirements** ▪

An applicant must be a permanent North Carolina resident attending a college, university, law school, community college or technical institute in North Carolina or a North Carolina resident attending an equivalent institution out of state. ▪ Applicants must carry a 2.5 or greater overall grade point average on a 4.0 scale. ▪ Applicant must be at least 18 years old by January 1, 2019. ▪ Community college students must have completed their first year completed before beginning the internship. ▪ Applicants must be continuing their education in the fall following their participation in the program. ▪ To qualify for a law internship, applicants must have completed at least one year of law school before the beginning of the internship, unless other majors are listed. ▪ Students having previously held paid internships with this program are not eligible to apply. ▪ Applicants must be willing and able to work full-time for the entire 10-week internship. Applicants must be able to provide legal proof of identity and work authorization within three working days of employment.

To apply go to: <https://ncadmin.nc.gov/>

Here are some examples:

#29 (1) Raleigh Stormwater "Smart Form" Programmer, Energy, Mineral and Land Resources Major(s): Engineering, Mathematics, Statistics, Computer Science, Information Systems Project Objective: This intern will work with the Stormwater Program Supervisor and other Stormwater Program staff members to create on-line forms for permit applications and other permit actions such as annual reports, and name, ownership and address changes. The intern will also create on-line forms for internal processes such as inspection reports and enforcement/compliance actions. These forms will be “smart;” that is, additional fields will appear for the user when additional information is needed per a specific response. Major Tasks to be Performed: The intern will work with applicable stormwater staff to develop the forms, create and test draft forms, and create business processes to automatically file the forms in our digital file repository using Laserfiche On-line software. Final Product or Outcome Anticipated: The use of these forms by the stormwater permittees and staff will significantly increase consistency and efficiency across this large, statewide program and is consistent with the direction that we have seen from the NC Legislature and DEQ Leadership to update and transform our permitting processes to the digital age. Travel required? No Anticipated intern work schedule: Weekdays/M-F

#37 (1) Mooresville or Raleigh Brownfield Tax Incentive and Economic Impact Database, Waste Management Major(s): Economics, Public Policy, Finance, Accounting, Public Administration, Planning, Urban Design, Environmental Science, Geology, Engineering Project Objective: The objective of this project is to evaluate and quantify the amount of public benefit, in terms of dollars of investment and tax revenue, generated as a direct result redevelopment of Brownfields Properties. This information would be tracked in a data base created by the intern. In addition, the data would be made available to local communities, which could then be used by those community’s subsequent grant applications (such as EPA Brownfields Grants) showing the success of Brownfields in their area. Major Tasks: Conduct online research via county property tax websites to research value of improvements made to Brownfields Properties before and after brownfields agreements that facilitated their redevelopment. If available, the amount of private investment dollars would also be researched. Develop database that the program can use to track and update 18 this information as new brownfields agreements are completed. Develop data analysis process/algorithm to evaluate tax base effects and positive economic impacts of the brownfields properties redeveloped under the NC Brownfields Program. Final Product or Outcome: The final product would be a summary County, and possibly by City of the amount of private sector investment in Brownfields Properties and the subsequent increase in tax values and possibly revenues these properties have provided over the course of time. In addition, the database developed by the intern will be something the Brownfields Program would continue to use to provide future economic impact estimates that result from redevelopment of brownfields properties. Travel Required to Accomplish Duties: Yes, travel during the workday a few times during the summer may be needed to visit brownfields properties with brownfields program project managers. Anticipated Work Schedule: Weekdays/M-F

#39 (1) Mooresville Environmental Safety Research Specialist, Energy, Minerals and Land Resources Major(s): Agricultural, Biological, Civil and Environmental Engineering, Environmental or Natural Resource Sciences. Project Objective: To provide a motivated student who is interested in State Government and Environment for an opportunity to gain hands-on experience working in Land Quality Section of Division of Energy, Mineral and Land Resources in Department of Environmental Quality. The intern will work directly with environmentalists, engineers and as well as other members of regulated community/public and will be able to get an experience in a diversity of state and federal environmental regulations including dam safety, industrial stormwater, mining and erosion control. This internship will include occasional field work, computer research, data entry, and writing inspection. Major Tasks: The intern will be responsible for Working from a list of high and intermediate dams to be inspected in the fall, the intern could verify current ownership of the dam utilizing the applicable county GIS website, and provide proposed changes for review. Once these changes are approved, I-BEAM could be updated and a new one-page report submitted for review, with a draft notification of inspection. This would be useful and save time for all the specialists and provide the owners advance notice so that they may perform routine maintenance of their dams prior to our inspections. The intern will be Reviewing the MRO dam files to make sure EAPS for high hazard dams are entered into I-BEAM accurately. The intern could confirm and update the county emergency management addresses and numbers. The intern will work on organizing different filing cabinet and consolidating different file to reduce file access and process time. The intern will also work in Mining, erosion and sediment control program and Industrial storm water to review these permits and inspections. Some additional responsibilities will be tailored toward the specific interests of the student in order to maximize the internship experience in other areas of Environment. Final Product or Outcome: The student will exit this internship with a significant awareness of State and Federal regulations and day to day functions of Land Quality section. The intern will have first-hand knowledge of the environmental programs with knowledge of Dam Safety, Sediments and Erosion control, Mining and Stormwater. The intern will also learn about research and development. The intern will spend five days with Air Quality, Water Resources, Water Quality, Public Water Supply and Waste management. Travel Required to Accomplish Duties: Yes, 25%- 30% within the region for inspections Anticipated Work Schedule: Weekdays/M-F

43 (1) Raleigh Regulatory Concepts for Coal Ash Management Intern, Waste Management Major(s): Engineering, Geology, or Environmental Science with knowledge of statistics Project Objective: The objective of this internship is to introduce and immerse the student into the regulatory concepts of coal ash management in North Carolina. Major Tasks: Travel with the coal ash unit to inspect coal ash landfills and processing facilities, prepare inspection reports and site visit documentation, attend planning meetings with the coal ash team, and assist in data entry and statistical analysis. Final Product or Outcome: Completion of all assigned tasks, including; inspection reports, site visit reports, data entry, and statistical analysis. Travel Required to Accomplish Duties: Yes, once weekly day trips to coal ash facilities. Anticipated Work Schedule: Weekdays/M-F

#47 (1) Raleigh Developing a Pollution Source Display Tool Intern, Water Resource Major(s): Environmental Science, Environmental Policy, Planning, Engineering, Geography, Natural and Physical Sciences - such as Biology, Geology, Chemistry, Agriculture Project Objective: Develop a plan to organize and visually present information associated with point and nonpoint nutrient pollution sources within NC nutrient strategy watersheds. Major Tasks: Coordinate with data source agencies. Determine how to best present the organized data. Develop a plan to produce outreach material to communicate this information. Final Product or Outcome: A plan to collect, evaluate, maintain, and visually present historical data sources to help stakeholders understand how different sources of pollution interact within four different watersheds. As time permits, execute plan with outputs potentially including data spreadsheets, descriptive text, and/or ArcGIS story maps. Travel Required to Accomplish Duties: Yes, Travel is not anticipated but may be needed within the Piedmont to obtain information or attend meetings about the project. The intern would need a valid driver’s license to be able to drive state vehicles. Anticipated Work Schedule: Weekdays/M-F

#48 (1) Raleigh Comprehensive Audit of Sewer Extension Permits Intern, Water Resource Major(s): Engineering, Environmental Science Project Objective: The intern will work primarily with the lead sewer extension permitting engineer to conduct a thorough audit of issued sewer extension permits; including a detailed engineering-based comparison of hard copy permitting files against database records, 21 researching errors/issues between the data sources, and corresponding with regional staff to resolve errors and fill data gaps. Verified permits will be documented through the Laserfiche management system to assist in development of a comprehensive permit database and refine future permit tracking procedures. Major Tasks: The intern will conduct data analysis of permit files using multiple data sources, including central office and archived hard copy files, regional files, and the existing database. Errors and data gaps shall be tracked, evaluated, and corrected during the audit process. Digital scans of audited permits will be used by the intern to develop a detailed, customer-facing Laserfiche database of historical permits, thereby improving DWR customer service and permit tracking capabilities. Final Product or Outcome: Amelioration of historical permit files, including verification of completeness and accuracy; as well as enhancement of the Laserfiche database that will allow staff and permittees to locate and track historical permits. Travel Required to Accomplish Duties: No Anticipated Work Schedule: Weekdays/M-F

#49 (1) Raleigh Air Quality Benefits of Electric Vehicles Intern, Office of the Secretary Major(s): Engineering, Environmental Science, Environmental Technology Project Objective: Analyze the future impact of light duty electric vehicles (EV) on air quality, ozone and PM emissions, petroleum usage, and electricity generation in North Carolina. Major Tasks: Develop estimates of air pollution increases/ decreases and the resulting change in North Carolina’s air quality based on 2050 forecast for 1) electric vehicle population in state, 2) changes in gasoline use electricity generation, 3) EV charging scenarios, and 4) forecasted changes in car fleet and power plant fleet. Will use this data in an EPA health effects model to develop potential health benefits of increasing the EV population. Final Product or Outcome: Inform the Energy Policy Council on impacts of EV to North Carolina air quality and any resulting health benefits. May also use the emissions estimates as a control measure in the Charlotte Area Ozone Maintenance State Implementation Plan (SIP) or North Carolina Regional Haze SIP

#60 (1) Raleigh GIS in Public Health Intern, Public Health Major(s): GIS, Geography, Environmental Science, Computer Science (wit some GIS coursework) Project Objective: Enhance Geocoding Application Major Tasks: Testing of new Application Development, Geocoding, Map Creation Final Product or Outcome: Newly enhanced and tested geocoding application. Travel Required to Accomplish Duties: No

#61 (1) Raleigh DIT Database Intern, Hosting Major(s): Computer Science, Computer Engineering, Electrical or Electronics Engineering, Information Systems, Database related majors or any Engineering major Project Objective: Research new Database technologies in the industry now and see how DIT can move into adopting them. This will include Cloud offerings of the Databases we currently support like Oracle and Microsoft SQL Server. Major Tasks: Research and present findings Final Product or Outcome: Presentation along with where we are in the DB technologies and tasks needed to keep up with the industry. Travel Required to Accomplish Duties: No Anticipated Work Schedule: Weekdays/M-F

#107 (3) Raleigh Energy Efficiency, Central Engineering; Energy Management Major(s): Industrial, Mechanical, and Electrical Engineering Project Objective: Continue to make our Energy Efficiency program a success. Major Tasks: A robust energy efficiency program ensures our leaders and customers understand the objectives of our program and partner with us in the most efficient use of energy and water – resulting in substantial financial savings to our institutions and taxpayers. This is accomplished by analyzing and prioritizing all opportunities to improve efficiency and energy costs. Specifically, the latest utility data will be scrubbed, imported into our utility dashboard 38 and presented to our leadership teams; determining the most cost effective electric and natural gas rates through detailed analyses, prioritizing projects and recommending the most cost effective retrofit solutions, managing energy efficiency projects, and presenting results to our leadership. Final Product or Outcome: Utility dashboard data is updated, analyzed and used to prioritize project priorities; project cost and usage savings are updated; most cost effective utility rates applied; recommendations made for water and energy retrofits with a focus on lighting; cost saving calculations performed; where possible, actual retrofits will be managed; findings and recommendations made to leadership regarding program status, energy efficiency priorities, and cumulative savings. Travel Required to Accomplish Duties: Yes, possibly several days at a time, for up to two weeks. Anticipated Work Schedule: Weekdays/M-F

#109 (1) Raleigh Jurisdictional Boundaries (county/state boundaries) Intern, Emergency Management; Risk Management/Geodetic Survey Major(s): Geomatics, Civil Engineering, Agricultural Engineering, and Civil Engineering Technology Project Objective: Provide support to NC Geodetic Survey’s county boundary team to reestablish county and state boundaries Major Tasks: Perform research, serve as a member of the survey team to collect data, serve as a visual observer on the Unmanned Aircraft System (UAS) team, and map production Final Product or Outcome: Perform research, field data collection, and map production to support the development of final reports, exhibits, and survey plats. Travel Required to Accomplish Duties: Yes, 10% (overnight) of the time to the counties in which the project is located. Anticipated Work Schedule: Weekdays/M-F