

Advance Software Engineering Student – Golden Fire Department Needs YOU!!

BACKGROUND

The nine square miles of the City of Golden is located at the West edge of the 774 square miles of Jefferson County. Golden is the westernmost suburb in the Denver Metro area. Rolling grassland, natural foothills, rugged mountains and rivers are unique to the topography that surrounds Golden. The City of Golden is a home rule municipality comprised of various city departments including the fire department. The City of Golden is home to the Coors Brewing Company, the Colorado School of Mines, The Jefferson County detention facility, the Jefferson County Sheriff's Department and is the County seat for all County government offices. Golden's resident population is more than 20,000, which increases to approximately 50,000 Monday through Friday between the hours of 8:00 AM and 5:00 PM. Approximately 5,000 students, age 2 – 18 attend our schools and another 5,500 attend college courses in pursuit of degrees at the Colorado School of Mines campus.

The Golden Fire Department is a combination Department made up of volunteer and career firefighters. We currently have 67 volunteer firefighters and 16 career staff members. Administrative services staff consists of a career Fire Chief, Training and Operations Captains, Fire Marshal, Deputy Fire Marshal, Fire Inspector, Administrative Assistant, Media Supervisor (volunteer), Media Services Technician and a Fire Mechanic. Career staffing also includes 3 Shift Lieutenants and 4 Firefighters. The Golden Fire Department currently has one part-time position, which is a Fire Academy Coordinator. Staff personnel including the Fire Chief, Training and Operations Captains, Fire Marshal and Fire Inspector who also have emergency response responsibilities. The Golden Fire Department provides structural firefighting, basic life support services, heavy rescue, high angle rescue, low angle rescue, swift water rescue, ice rescue, wildland firefighting, hazardous material response, fire prevention services, inspections and public education for our residents and visitors. The Department provides Fire Protection to the Colorado School of Mines and emergency response to the unprotected areas of unincorporated Jefferson County adjacent to Golden.

For the last 139 years Golden firefighters have been on the job. Outside of a small career staff of full-time city employees, 100% of the operational force are volunteer firefighters. These volunteers participate in countless hours of training emergency response and work details. The volunteer firefighters are held to the same high standards as all the state's career firefighters and possess the necessary skills and certifications required in the profession.

PROBLEM STATEMENT

For our customers and businesses in Golden, ranging from the very small to the big box store to college campus to suburban corporate facilities, the availability of an adequate number of Fire and Life Safety personnel to perform everyday job requirements is becoming overwhelming. Over the past several years, the City of Golden has witnessed a dramatic increase in the number of emergency responses. The number steadily climbed to 2287 in 2018 from 1573 in 2017. In 2019 Fire & Life Safety saw a rise in plan review, construction and maintenance inspections, arson investigations, community events, school programs, station tours and car seat installations. And in 2019 F&LS also engaged with the community by installing 313 smoke alarms and performing 228 home fire safety inspections. The emergency response from the Fire Marshal and Fire Inspector removes them from their primary responsibilities and decreases the efficiency of our administrative operation.

Many construction inspections include phasing, which requires multiple inspections at a single location. The increase in submitted plans for review include fire permits, building permits, revisions, Colorado School of Mines, Jefferson County, and operational permits for events, crowd management, new requirements per 2018 IFC, beverage dispensing, propane sales, fireworks display, and hot

works. F&LS Division receives many complaints of code violations from residence and visitors that requires inspections and possible follow-up.

Both the Fire Marshal and Fire Inspector are certified Arson Investigators that requires on-going training, continuing education and each must alternate an on-call schedule. In order to maintain certifications required by the positions held above, each staff member must attend multiple conferences, re-certification courses, and obtain proper continuing education credits (CEU's) throughout the year. Fire Inspector is responsible for maintenance inspections which include annual, Bi-annual and three-year inspections throughout the entire city as well as analyzing our Community Risk Reduction and how to better serve our residents and visitors.

WORK TO BE DONE

With the aid of the Colorado School of Mine CS capstone team, we expect to build a performance management system to help us gather and analyze data in order to produce solutions within the Department. The system should be designed to assist us in quantifying and evaluating our performance.

DESIRED SKILL SET

We believe students with software engineering background in education will be able to build a performance management system. An assessment of the existing computer program/systems that GFD uses to collect and process data will be necessary. Systems we currently use are called Emergency Reporting, Brycer Compliance Engine, SeamlessDocs, and LaserFiche. Developing a process for pulling data for these systems on a regular basis will be needed. Determining a process for analyzing and reporting the data will be needed period from this the development of a computer program, application performance management system should be built.

TEAM MAKE-UP AND PERKS

The preferred size of the team is flexible, from 3 to 5 students would be manageable. There is a possibility for an unpaid internship following the project, but definite opportunities for letters of recommendations, and engagement with positive role models, real-world work experience and mentorship will be provided.

JOB LOCATION

The Golden Fire Department is within blocks of CSM campus. We are located at 911 10th St cross of Washington Ave; some work could be performed on location comma and other work could be done remotely based on student's needs.

We realize the CSM students have a choice in projects they select. The performance management system they create for the Golden fire Department will help GFG work more efficiently and effectively in their pursuit of excellent customer service. We are a fun intelligent group, seeking help from the fun intelligent students. Please contact Fire Marshal Jerry Stricker at jstricker@cityofgolden.net