Overview of Proposed Geophysics/Petrophysics Programs at Texas A&M University–Kingsville

Subbarao Yelisetti, Thomas L. McGehee, and Lionel Hewett

Department of Physics and Geosciences, Texas A&M University–Kingsville,
700 University Blvd., MSC 175, Kingsville, Texas 78363

ABSTRACT

The South Texas petroleum industry requested that our physics program at Texas A&M University–Kingsville (TAMUK) develop a new concentration in petrophysics to meet the needs for professionals in this expanding industry. Petrophysics is the study of the physical and chemical properties of reservoirs (rocks and fluids). Petrophysicists analyze reservoirs and help engineers determine the best areas and procedures for drilling and excavation. Many petrophysicists are employed in the oil and gas industry, though some work in the water resource and mining industries as well. Petrophysicists study data about reservoirs and draw conclusions about the reservoirs' properties. They provide the information to engineers and geologists who are then able to make models and plans for drilling. Petrophysicists usually have a masters or doctoral degree in physics. The Physics, Geosciences, and the Natural Gas Engineering Programs at TAMUK have developed multidisciplinary bachelor's and master's degrees in petrophysics to supply the training for future professionals. According to the U.S. Bureau of Labor Statistics (BLS), the median annual wages for geoscientists working in the oil and gas industry was $135,380 as of May 2014. Long term projections of various geoscience jobs in the U.S. show an increase of 15–25% by the year 2022 (BLS). This is faster than the average growth rate for all occupations. According to the State Employment Security Agency projection estimates, this increase is even more significant in Texas where the job openings will increase by 30–45% by the year 2022. This uptick in demand is spurred by hiring in the oil and gas industry and predicted retirements of geoscientists. Federal geoscience workforce age distribution estimates from 2011 by American Geological Institute indicate that most of the current geoscientists are older than 50 years and are nearing their retirement. As a result, geoscience is well positioned as a high-growth career area going into the next decade.