

College: Great Basin College

Location: Elko, Nevada

Practice: Mine Maintenance Training Program

Creating a pipeline of qualified technicians for Nevada’s gold mining industry through an intensive, flexible, cluster-driven program

Year Started 1988

Budget Well over \$1 million

Number of Participants 720

Number of FTE 320

Target Sector Gold mining industries in northeastern Nevada

Staff Size 11 FT

Structure Partnership between the community college and various industry organizations

Key Outcomes Creation of scholarship opportunities
Increased use of local workforce for high-paying jobs
Helps stem the migration of youth from the area

Introduction

Nevada is the world’s third largest producer of gold, after South Africa and Australia. About 90 percent of Nevada’s gold comes from the sparsely populated northeastern portion of the state. And despite low prices in recent years, the gold industry remains the region’s primary economic engine. Unfortunately, skilled workers in diesel technology, industrial plant technology, electrical, and welding — occupations that are critical to the success of modern-day mining’s sophisticated operations — are hard to find. Addressing that shortage is the Great Basin College Mine Maintenance Training Program, a collaborative effort of the college and local mining companies.

While efforts between industry and community colleges to create tailored programs are not

unusual, the mine maintenance program is worth a look because of its condensed scheduling, flexibility, impact, and strength of industry participation. Indeed, the industry went so far as to form an independent, non-profit entity to coordinate industry involvement. Finally, the program should be of interest to any college seeking to help industry clusters meet their training needs.

Community Background

Great Basin College (GBC) serves five counties in northeastern Nevada, including a 200-mile swath of high desert between the Bonneville Salt Flats in the east and the Black Rock Desert in the west. GBC’s service area is also home to great potato fields around Winnemucca, some of the world’s

Program focus	Sector specific	Economic condition	Economic base			Target populations
			Mfg	Agr	Svc	
Technical education	Yes	Distressed	1	1.6	44	Economically disadvantaged, minorities, women

Service Area Elko, White Pine, Humboldt, Lander, and Eureka Counties

<i>Total Population</i>	70,000
<i>Median Household Income</i>	\$40,000
<i>% Below Poverty Level</i>	9.4
<i>% Unemployment Rate</i>	6.9
<i>% Minority Population</i>	17
<i>% Rural Population</i>	53
<i>% High School Graduates</i>	75
<i>% College Graduates</i>	11

largest ranches, and several snow-mantled mountain ranges. At 45,000 square miles, the service area is larger than the state of Indiana. Nearly 80 percent of the land belongs to the federal government. Total population of the region is about 70,000. With 20,000 residents, the city of Elko is the region's largest community and home to the main campus.

In addition to mining (mercury and barite as well as gold), tourism and ranching play roles in the local economy. Ranching, however, is much less important to the economy today than in previous years, while tourism—particularly gaming—is on the rise.

In recent years, low gold prices have hurt local mining companies, putting smaller and less efficient ones at risk of closing. Consequently, GBC's program is particularly important because companies with marginal ore bodies and inefficient operations need qualified technicians who can help them modernize operations and reduce waste.

Program Description

GBC is a comprehensive community college with three campuses and 3,000 students pursuing two-year degrees in programs ranging from health sciences to business administration to mine maintenance. The college recently began offering two baccalaureate programs—one in education and one in applied science.

The genesis for the mine maintenance program came in the late 1980s when Newmont, the region's largest mining company, grew from 400 to 2,700 employees in just three years and could not find the

skilled workers it needed for technical positions. The expansion stemmed from high gold prices and new technology that made it more profitable than before to mine certain ore bodies.

Initially, the company imported skilled technicians from eastern coal mining areas. Turnover rates, however, were high among these workers who were unaccustomed to the area's often-harsh climate. Consequently, the firm decided instead to develop its own technicians. And after receiving an expensive training proposal from a large multi-national contractor, Newmont approached GBC to create with it a program that would not only be cheaper, but one that would also better meet its needs.

Over the next four years, 200 Newmont employees spent eight and one-half hours a day for 40 weeks at the college to obtain certificates in diesel technology, electronics, welding, or industrial maintenance. To facilitate this, the company paid tuition, faculty costs (since the college budget initially could not support the new positions needed), and workers' wages.

In the 1990s, the program evolved as more mining companies in the area sought to participate. Acting as facilitator, Newmont brought together the region's mining companies into a training network with its own non-profit coordinating body, Manpower Training Cooperative. At its peak, 15 companies belonged to the cooperative. In 2001 the number stood at eight, due largely to industry consolidation.

After formation of the network, the college began recruiting high-school seniors to the program and the companies began offering scholarships. Students selected for scholarships worked for a summer at their sponsoring company, attended classes full-time for a semester, and then spent one-fourth of their time per month at school and the rest at work for the remaining one and a half years. At the end of two years, students had earned an AS degree.

After five or so years, however, companies grew dissatisfied with the arrangement. They found it difficult to begin to depend on students as employees and then lose them to the college for a period of time. In response to that dissatisfaction, the current structure was put in place. Under it, students work for a summer at a sponsoring company, then undertake an intensive, full-time (at least 8 hours a day for 48 weeks) course of study that gets them a degree in one year.

The most recent changes to the program include opening up the scholarship competition to non-seniors, working to attract more minority students, and allowing non-scholarship students to enroll in the program. And while all four of the program tracks still focus on the mining industry, the curriculum has broadened somewhat and some graduates are now working in other industries in the region and elsewhere. This year's class has 85 students, 35 of whom are on scholarship. About 15 percent of students are women.

Program instructors all have mining experience, which is possible because Nevada does not require vocational instructors to have a four-year degree. Each of the four tracks has an advisory committee from industry to help the college keep the programs up-to-date. Faculty also contract with companies to provide training for existing workers.

Local firms are satisfied with the caliber of the teaching and the graduates of this program. Indeed, staff from one of the largest mining companies cited both as "outstanding."

Outcomes

The Mine Maintenance Training Program at Great Basin College has helped the regional economy in many ways. The most obvious is alleviating the shortage of skilled mining technicians. Another is supporting high-paying jobs; average starting salaries are about \$40,000, with overtime raising that to \$60,000 in many cases. In addition, the program provides good employment opportunities for local high school graduates, giving them an incentive to stay in the region. Finally, the program's benefits spread beyond the mining industry. The head of the program states that the increase in skilled technicians in the region helps other industries as well.

Strengths, Challenges, and Replicability

That the program has continued for more than a decade is a testament to its responsiveness and high quality. Even during lean times, industry understands the benefits of cultivating a high-skilled labor pool in this sparsely populated region, and the college/industry partnership endures.

The flexibility that industry and the college have shown in changing the program over the years to

improve it and tailor it to evolving needs has also been important.

A key challenge has been keeping up with new mining equipment and techniques. Mining companies have been generous, either donating or loaning sophisticated equipment worth hundreds of thousands of dollars. Recently, for example, the college received a \$167,000 engine for its laboratory. State budgets would never be able to equip the program at the level needed.

At times, mining companies in the region accuse one another of poaching employees, but overall the industry partnership has not been too difficult to maintain. Companies recognize the value of working together and with the college to maintain a pipeline of skilled technicians.

Program organizers are quick to point out that a similar partnership could be set up to support any industry cluster in a remote area. This practice is more about how industry and a community college can come together to meet workforce needs through flexibility and cooperation than it is about any particular training needs or any particular industry.

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