



Underground/Surface Coal Mining (MSHA 5023)

The Bureau of Mines, headquartered in Vincennes, Indiana, inspects all Indiana underground coal mining operations and certifies specific mining occupations. There are eight active underground mines in Indiana.

Surface mining is accomplished by removing overburden from the coal seam and then blasting and removing the coal. In surface mining, workers can operate heavy equipment such as bulldozers, front-end loaders, bucket wheel excavators and trucks. It is not required to have a valid driver's license to run the equipment. Surface miners also may drill holes for the placement of explosives, work as blasters, or set explosive charges to break up the coal.

Coal miners who work outdoors are exposed to severe weather elements. Conversely, underground mining is done in dark and damp conditions.

An underground miner must be able to work in cramped spaces, have good reflexes and be in good health. Underground mines can be cold and noisy and most light comes from the lamps attached to the miners' helmets. Miners may have to work on their hands and knees or lie down, where water can collect on the mine floor, to reach coal seams. The work is physically strenuous.

It is necessary for a coal miner to be attentive and cautious. Miners can perform a number of tasks around a coal mine, depending on the type of mine where he or she works. Because of the nature of their job, miners should be able to work well with others.

Indiana Wage Information

	Entry	Median
Hourly Wage	\$19.67	\$20.03

Job Outlook in Indiana

Long term	-8.47% (decrease)
Short Term	-2.67% (decrease)

*Data collected from hoosierdata.in.gov

Job Duties

- Operate a machine with a cutter head that extracts the coal from the wall of the mine
- Drill strategically placed bolts and plates into the roof of an underground mine to ensure the stability of the mine roof
- Run earth-moving equipment, including crawler tractors, mining haul trucks, drag lines, and wheel loaders
- Use huge rollers and plates which crush the coal; then, use a series of conveyors and screens to stockpile different sizes of coal
- Assist with operation of equipment and facilitate an environment in which production targets are met
- Use chain saws and drilling machines
- Assist with mine rescue
- Surface and underground drilling maintenance

Important Qualities

Endurance – must be able to: endure physical labor all day, crawl on hands and knees, and spend a significant length of time underground

Healthy – must be in good health

Interpersonal skills – must be able to work well with others

Listening skills – must be able to actively listen to others

Dependability – must be reliable

Detail-oriented – must be able to pay attention to details

Safety-oriented – must be conscience of necessary safety measures

Skills and Knowledge

Technical

- Knowledge of machines and tools, including their designs, uses, repair, and maintenance
- Knowledge of relevant equipment, policies, procedures, and strategies for public safety and security
- Knowledge of laws, legal codes, and court procedures
- Knowledge of principles and methods for teaching and instruction

English Language Arts

- Ability to read and understand written information
- Ability to express ideas clearly in speaking and writing
- Ability to listen to others, understand, and ask questions

Math

- May need basic math skills, including counting, basic addition and subtraction

Certification and Advancement

The purpose of the Mine Safety and Health Administration (MSHA) is to enforce compliance with mandatory safety and health standards as a means to eliminate fatal accidents, reduce the frequency and severity of nonfatal accidents, minimize health hazards, and to promote improved safety and health conditions in mines. Entry-level miners would do well to earn their MSHA 5023 certification for new miner training.

Most miners learn their work on the job by helping experienced miners. Nevertheless, formal training is becoming more important because miners are starting to use more complex machines and methods. As a result of these changes, mining companies offer special courses to their workers. Beginning miners can start in training mines where they learn the skills safely, or they can go through a classroom program before they begin working in mines.

Often companies prefer to hire those who already have training in mining methods. Some colleges, especially those in mining regions, offer courses in mining methods. Interested students may earn a certificate in mine studies in one year or an associate degree in two years. Usually the study programs do not require a high school diploma. However, candidates may have to pass a basic skills test in math and English. Many states require miners to be at least eighteen years old, but workers under eighteen can fill above ground and office jobs.

How can YOU get involved?

The world of work relies on the foundational skills students acquire in your classrooms and/or programs!

- Know your students'/clients' interests and career goals
- Affirm the value of the skills/hobbies students demonstrate both in and outside of the classroom
- Infuse your classroom culture and/or meetings with career-minded activities
- Provide time to make connections between the material learned in adult education or programs and students' daily lives/career aspirations
- Know the basic job descriptions and training requirements of in-demand occupations in your area
- Know which WorkINdiana programs are available in your region
- Know the processes for referring students to postsecondary or on-the-job training
- Post resources where students can find more information about further education/training and careers