Mining Engineering Undergraduate Emphases

Aggregates & Mineral Processing
Students in this emphasis will obtain a greater understanding in areas such as resource economics, investment community, and business practices within the aggregate industry. Courses will provide a broad, practical foundation in key areas of aggregate practices, mineral processing techniques, and resource management.

Geomechanics and Spatial Analytics
This emphasis is ideal for those who want to develop technical skills and expertise in areas such as geomechanics, spatial analysis, or remote sensing, using techniques that have application in mining and other natural resource-related fields. Courses will allow students to develop skills in diverse areas, including characterizing rock properties, evaluating slope stability, understanding ore deposits, and analyzing spatial data collected using Unmanned Aerial Vehicles (UAVs) and Terrestrial Lidar Scanners (TLS).

Mining Operations Management
This emphasis is ideal for those who wish to manage mine or industrial operations. Students will learn material and acquire skills in effectively utilizing the two critical components of any operation: people and the system. Available topics include how to manage people and organizations, along with engineering courses to simulate a complex system so that management decisions can be compared quantitatively.

Mining Safety & Health
Students in this emphasis will obtain additional background valuable for those wanting to pursue an industry safety and health position. Courses will provide a broad, practical foundation in key areas including safety and health management, risk assessment, and their application within engineering situations.

Sustainable Resource Development
This emphasis will prepare students to navigate the complicated environmental, social, and governance (ESG) dimensions of modern mine development. You will be able to assess key risks and develop mitigations strategies to address ESG topics successfully. It is well suited for those interested in public or government relations jobs within mining companies. It is also suited for those looking to obtain experience in environmental and social assessment mining feasibility studies. Courses will provide background in areas such as water policy, permitting, reclamation, resource economic development, hydrology, and risk management.
This is a sample program of study. It is essential to meet with your academic advisor to make sure you are meeting specific requirements of your selected emphasis. More information is available online at mining.utah.edu and by reviewing your degree audit in CIS.