Mining engineering requires a broad knowledge of sciences and other fields of engineering in its practice after graduation. The curriculum below meets the requirements for a Bachelor of Science in Mining Engineering, provided the student satisfies the graduation requirements of the College of Engineering. Admission to the program is selective. Students should refer to the UK Bulletin for general information concerning admission and graduation requirements.

**Degree Requirements**

**First Semester**
- CHE 105 General College Chemistry I ......................................................... 4
- CS 221 First Course in Computer Science for Engineers .......................... 2
- CIS/WRD 110 Composition and Communication I .................................... 3
- MA 113 Calculus I ......................................................................................... 4
- MNG 101 Introduction to Mining Engineering ........................................... 1
- UK Core – Social Sciences ......................................................................... 3

**Second Semester**
- CHE 107 General College Chemistry II ...................................................... 3
- MA 114 Calculus II ....................................................................................... 4
- MNG 191 Mine Graphics ............................................................................. 1
- MNG 264 Mining Methods .......................................................................... 3
- PHY 231 General University Physics ............................................................ 4
- PHY 241 General University Physics Laboratory ......................................... 1

**Junior Year**
- EM 305 Electrical Circuits and Electronics .................................................. 3
- EES 230 Fundamentals of Geology I ............................................................. 3
- ME 330 Fluid Mechanics ............................................................................. 3
- MNG 211 Mine Surveying .......................................................................... 2
- MNG 301 Minerals Processing ................................................................... 3
- MNG 302 Minerals Processing Laboratory .................................................. 2
- MNG 335 Introduction to Mine Systems Analysis ........................................ 3

**Senior Year**

**First Semester**
- MNG 332 Mine Plant Machinery ................................................................. 3
- MNG 341 Mine Ventilation .......................................................................... 3
- MNG 551 Rock Mechanics ......................................................................... 4
- MNG 591 Mine Design Project I*** ............................................................... 1
- UK Core – Statistical Inferential Reasoning ................................................ 3
- UK Core – Citizenship - USA ...................................................................... 3

**Second Semester**
- MNG 592 Mine Design Project II (UK Core – Arts and Creativity) ............ 2
- UK Core – Global Dynamics ...................................................................... 3
- Technical Electives** ................................................................................. 6
- Supportive Elective .................................................................................... 3
- UK Core – Humanities ............................................................................... 3

**Sophomore Year**
- EM 313 Dynamics ..................................................................................... 3
- MNG 371 Professional Development of Mining Engineers ......................... 3
- MNG 435 Mine Systems Engineering and Economics ............................... 4
- MNG 463 Surface Mine Design and Environmental Issues ....................... 3
- Minerals Processing Technical Elective* .................................................... 3

**Second Semester**
- MNG 591 Mine Design Project I*** ............................................................... 1
- UK Core – Statistical Inferential Reasoning ................................................ 3
- UK Core – Citizenship - USA ...................................................................... 3

***At the time of publication, MNG 591 was being changed from 2 credit hours to 1 credit hour.

**Technical Electives:** Of the two technical electives in the undergraduate program, students are required to select at least one from departmental courses. The remaining course, chosen with the approval of the student's advisor, can be used to fulfill specific educational goals.

- MNG 511 Mine Power System Design
- MNG 531 Advanced Blast Design and Technology
- MNG 541 Computer Design of Mine Ventilation Systems
- MNG 561 Mine Construction Engineering I
- MNG 563 Simulation of Industrial Production Systems
- MNG 572 Advanced Coal Preparation
- MNG 575 Coal Preparation Design
- MNG 580 Mineral Processing Plant Design
- MNG 581 Geostatistics
- MNG 599 Topic in Mining Engineering
- BAE 438G Fundamentals of Groundwater Hydrology
- CE 471G Soil Mechanics
- CE 541 Intermediate Fluid Mechanics
- EES 450G Sedimentary Geology
- EES 585 Hydrogeology

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