EXPAND YOUR CAREER

Department of Mining & Geological Engineering

MINERAL PROCESSING & EXTRACTIVE METALLURGY

ONLINE GRADUATE CERTIFICATE

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www.mge.arizona.edu
WHAT IS THE CERTIFICATE PROGRAM?
The certificate programs are intended for working professionals changing their duties within companies or those who need a stronger background in a particular segment of the industry. We have created three certificate programs. Each requires 15 units of graduate coursework with a grade of B or better and all courses are available via distance. Each course is the same as offered to residential MS and Ph.D. students, taught by professional faculty members. Upon successful completion of the program, the units may transfer into a Master of Engineering degree.
Enrollment is limited to graduates of accredited engineering bachelors program and other cognate degrees (i.e., biology, chemistry, geology, industrial hygiene, physics, MIS, etc.) with a 3.0 GPA or higher. Applicants must demonstrate that they have the necessary prerequisites completed for the courses in the certificate program. To be admitted to this certificate program, candidates should have two years of professional experience, preferably in a field related to the specific option selected for study.

HOW TO APPLY
Applicants must submit the following by the appropriate deadline:
• Online Graduate College Application, Resume, Official Transcripts, 3 Letters of Recommendation.
• Must have minimum 3.0 undergraduate GPA in relevant degree.
• TOEFL for non-English speakers.
Deadline to be eligible for funding: January 1st for Fall semester. All other applications must be submitted at least two weeks prior to the start of the Fall semester.

ADMISSIONS
COST: Refer to Bursars office
Phone: (520) 621-3232 Fax: (520) 621-4233
Monday, Thursday, Friday: 8:00am - 4:00pm
Tuesday, Wednesday: 9:00am - 4:00pm
http://www.bursar.arizona.edu/
If your company has a presence in Arizona, you may qualify for in-state fees.

WHY STUDY MINERAL PROCESSING & EXTRACTIVE METALLURGY?
Mineral processing is facing new challenges from different aspects such as the environmental consideration, low grade ore, complex ore composition and so on. The mining industry needs the metallurgists who can successfully combine the fundamentals of mineral processing with the metallurgy practice in concentrators and leaching plants. The certificate program in mineral processing will help a metallurgist to achieve these goals upon completion.
Processing courses focus on physical and chemical unit operations used to separate and recover the economic minerals and metals from their ores. The modern scientific and engineering background for the operations are presented as well as economic aspects.
Hydrometallurgy courses will provide the student with the fundamental and practical aspects of hydrometallurgy processes used to extract and recover mineral and metal values. Unit processes where aqueous solutions play a major role will be examined in detail. The basic processes of leaching, solution concentration and purification, and metal recovery will be focused on.

REQUIRED COURSES (12 units)
MNE 511 Mineral Processing (3 units)
MNE 539 Surface Chemistry of Flotation (3 units)
MNE 550 Elements of Solution Mining (3 units)
MNE 565 Hydrometallurgy (3 unit)

ELECTIVE COURSES (3 units)
CHEE 500R Water Chemistry for Engineers (3 units)
CHEM 529 Methods of Surface and Materials Analysis (3 units)

Course substitutions or changes in electives are allowed with the approval of the program advisor.