

A GEOTECHNICAL CENTER OF EXCELLENCE
PROFESSIONAL DEVELOPMENT COURSE

BLASTING AND PIT SLOPE PERFORMANCE

**Self-paced & online course
starting August 18, 2026**



THE UNIVERSITY OF ARIZONA
COLLEGE OF ENGINEERING

School of Mining
Engineering & Mineral
Resources

The University of Arizona's Geotechnical Center of Excellence is proud to announce our newest course focused on blasting in open pit mines! This professional development course is self-paced and online and features approximately 24 hours of pre-recorded content, live virtual discussions with subject matter experts, and will remain accessible for a full year.

The Geotechnical Center of Excellence, at the University of Arizona, is excited to bring the mining community Blasting and Pit Slope Performance, our newest professional development course that will provide an in-depth exploration of the geotechnical factors influencing blast design and execution in mining. Participants will learn how rock mass properties, structural geology, and environmental conditions affect blasting outcomes, safety, and slope performance. Emphasizing practical applications, the course covers blast planning, risk mitigation, monitoring, and post-blast geotechnical assessment, equipping participants with the skills needed to optimize blasting and geotechnical slope performance.

\$999 USD

Discounts for GCE members, groups, and students.

REGISTER



cvent.me/OZGG0Z

The course begins August 18, 2026 — REGISTER TODAY!! »

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Developed with support from

Large Open Pit
Project



BLASTING AND PIT SLOPE PERFORMANCE

This **self-paced** and **online** professional development course explores the geotechnical factors influencing blast design and execution in mining. The course launches **August 18th**, register today!

SECTION 1	INTRODUCTION TO BLASTING AND GEOTECHNICAL INTERACTIONS
	OPERATIONAL AND GEOTECHNICAL OBJECTIVES IN BLASTING COMPONENTS OF SLOPE DESIGN COMPONENTS OF BLAST DESIGN GEOTECHNICAL CONSIDERATIONS FOR BLAST DESIGN BLAST MASTER PLAN
SECTION 2	ROCK MASS AND EXPLOSIVES PROPERTIES
	MATERIAL PROPERTIES (ROCK & EXPLOSIVES) EXPLOSIVES SELECTION BLAST HOLE COUPLING AND ENERGY TRANSFER GEOLOGIC STRUCTURE AND DISCONTINUITIES GROUNDWATER INFLUENCE ON BLASTING
SECTION 3	GEOTECHNICAL CONSIDERATIONS IN WALL CONTROL BLASTING
	MINE DESIGN CONSIDERATIONS BLAST DOMAINS VS GEOTECHNICAL DOMAINS GEOTECHNICALLY INFORMED BLAST PLANNING CONTROLLED BLASTING TECHNIQUES INCLUDING PRE-SPLITTING DESIGN PARAMETER MODIFICATION FOR ROCK QUALITY & STRUCTURE
SECTION 4	EXPLOSIVES TIMING AND SEQUENCE
	WAVE INTERFERENCE AND FREQUENCY CONSIDERATIONS WAVE INTERFERENCE MODELS FOR VIBRATION CONTROL TIMING OPTIMIZATION FOR VIBRATION LEVELS CONTROL TIMING SEQUENCES FOR WALL CONTROL & FRAGMENTATION OPTIMIZATION THROW / RECOIL / PROTECTING THE WALL & DIRECTIONAL SHOOTING AND ITS APPLICATION
SECTION 5	MONITORING AND MANAGING BLAST-INDUCED GEOTECHNICAL RISKS
	INTERPRETING GROUND VIBRATION DATA BLAST-INDUCED HAZARDS INSTRUMENTATION FOR BLAST MONITORING BLASTING AROUND/NEAR UG WORKINGS
SECTION 6	GEOTECHNICAL POST-BLAST ASSESSMENT AND ADJUSTMENTS
	EVALUATING BLAST OUTCOMES INTEGRATING GEOTECHNICAL & KEY STAKEHOLDERS USING BLAST FEEDBACK TO IMPROVE FUTURE DESIGNS ROCKFALL PROTECTIONS SYSTEMS
SECTION 7	CONSIDERING BLAST DAMAGE IN SLOPE STABILITY ANALYSIS
	BLAST DAMAGE AT THE BENCH SCALE INCORPORATING BLAST EFFECTS IN SLOPE STABILITY MODELS