Mining Engineering

Duration
Ten semesters

Degree
Mining Engineer

Objectives

To ensure the training of Mining Engineers required by the industry, scientifically and technologically enabled to analyze, diagnose, design, and execute mining projects, while being ethically committed to the sustainable development of the country's resources. To keep current the objectives that led to the creation of the career in 1939: "to provide the country with a professionally trained individual in the techniques of searching, exploiting, and benefiting from mineral resources, activities of fundamental importance for development."

Occupational field

The main sources of employment are mining, civil, and road construction companies. It also plays a role in the governmental area, conducting appraisals, expertises and arbitration in mining-related matters. Research and teaching at secondary, special, and university levels are the culminating stages for applying the practical knowledge acquired to the training of new human resources.

Professional profile

In scientific terms, the goal is to provide the graduate with a solid interdisciplinary education for the exploration, exploitation and profit of mineral resources.

Professionally, to have the appropriate tools to perform adequately in different institutional settings, equipped with self-criticism regarding their role and accountable for their capabilities and limitations.

On a social level, the objective is the formation of a professional who is ethically committed to society and to the sustainable development of the country's resources.

Study plan

YEAR	SEM.	N°	SUBJECTS	HOURLY CREDIT
1	1	1	Algebra	5.00
1	1	2	Calculus I	8.00
1	1	3	Chemistry	5.00
1	1	4	Computing	5.00
1	1	60	Seminar I	30.00
1	2	5	Analytic Geometry	5.00
1	2	6	Physics I	10.00
1	2	7	Drawing and Representation Systems	6.00
1	2	8	Introduction to Mining	3.00
2	3	9	Physics II	9.00
2	3	10	Calculus II	8.00
2	3	11	Mineralogy I	5.00
2	3	12	Statistics	5.00
2	3	61	Seminar II	30.00
2	4	13	Mineralogy II	5.00
2	4	14	Numerical Methods	5.00
2	4	15	Static and Material Resistance	7.00
2	4	16	Mechanics Applied to Mining	7.00
3	5	17	Geology and Petrology	8.00
3	5	18	General Topography	5.00
3	5	19	Mining Machines	6.00
3	5	20	Analytic Chemistry	8.00
3	6	21	Rock Mechanics	6.00
3	6	22	Mine Surveying	5.00
3	6	23	Mineral Deposits	5.00
3	6	24	Poll Technology	5.00
3	6	25	Summer Practice I	300.00
4	7	26	Mine Analysis	5.00
4	7	27	Exploration	6.00

4	7	28	Mechanical Mineral Treatment I	7.00
4	7	29	Mining and Work Legislation	5.00
4	8	30	Mechanical Mineral Treatment II	7.00
4	8	31	Mine Exploitation I	7.00
4	8	32	Mining Economy	5.00
4	8	33	Humanistic Optative	4.00
4	8	34	Summer Practice II	300.00
5	9	35	Mine Exploitation II	8.00
5	9	36	Mining Constructions	6.00
5	9	37	Metallurgy	5.00
5	9	38	Business Management	5.00
5	10	39	Study and Control of Environmental Impact	5.00
5	10	40	Health and Safety at Work	5.00
5	10	41	Elective I	5.00
5	10	42	Elective II	5.00
6	11	43	Final Project	300.00
				Total subjects: 45

ELECTIVES: MINERAL BENEFICIATION ORIENTATION				
YEAR	SEM.	N°	SUBJECTS	HOURLY CREDIT
			Mining Project Evaluation	0.00
			Experimental Design	0.00
			Mineralogy Applied to the Beneficiation of Minerals	0.00
			Plants Projects	0.00
			Effluent Treatment	0.00
			Hydrometallurgical	0.00
			Process Control and Instrumentation	0.00

ELECTIVES: EXPLORATION ORIENTATION				
YEAR	SEM.	N°	SUBJECTS	HOURLY CREDIT
			Applied Geophysics	0.00
			Mine Geology	0.00
			Applied Cartography and SIG	0.00
			Evaluation of Mining Projects	0.00

ELECTIVES: EXPLOITATION ORIENTATION				
YEAR	SEM.	N°	SUBJECTS	HOURLY CREDIT
			Tunnel Construction	0.00
			Special Mine Exploration	0.00
			Special Rock Mechanics	0.00
			Geotechnics	0.00
			Experimental Design	0.00
			Evaluation of Mining Projects	0.00

HUMANISTIC OPTATIVE				
YEAR	SEM.	N°	SUBJECTS	HOURLY CREDIT
			Mining History	0.00
			Human Relations and Group Dynamics	0.00
			Conversational English	0.00