CHECK SHEET FOR MINING ENGINEERING AND MANAGEMENT
(Revised August 2012)

Fall Semester (Freshman Year)

Chem 112&112L	General Chemistry I	4
Math 123	Calculus I	4
MEM 110	Professionalism in Engineering and Science	1
Engl 101	Composition I	3
_____	Hum/Soc. Sci. Elective	3
PE	Physical Education	1
	Total	16

Spring Semester (Freshman Year)

Math 125	Calculus II	4
Phys 211	University Physics I	3
MEM 120	Introduction to Mining and Sustainable Development	2
_____	Hum/Soc. Sci. Elective	3
Engl 279	Technical Communications I	3
	Total	15

Fall Semester (Sophomore Year)

Math 205	Calculus III	2
Phys 213	University Physics II	3
EM 216	Engineering Mechanics (Statics and Dynamics)	4
MEM 201	Surveying for Mineral Engineers	2
MEM 203	Introduction to Mine Health and Safety	1
Econ 201	Microeconomics	3
	Free Elective	2
	Total	17

Spring Semester (Sophomore Year)

Math 321	Differential Equations	3
GeoE 221/221L	Geology for Engineers	3
Engl 289	Technical Communications II	3
_____	Hum/Soc. Sci. Elective	3
MEM 202	Materials Handling and Transportation	2
MEM 204	Surface Mining Methods and Unit Operations	2
	Total	16

Fall Semester (Junior Year)

MEM 301	Computer Applications in Mining		2
MEM 303	Underground Mining Methods and Equipment		2
MEM 305	Introductions to Explosives Engineering		3
EE303/303L	Basic Circuits (for MEM)		3
IENG 366	Organization and Management		3
MEM 307	Mineral Exploration and Geostatistics		3
		Total	16

Spring Semester (Junior Year)

MEM 302	Mineral Economics and Finance		3
MEM 304	Theoretical and Applied Rock Mechanics		3
EM 331	Applied Fluid Mechanics		3
MEM 4XX	Mining Technical Elective[1]		3
Met 220	Mineral Processing and Resource Recovery		3
ATM 404	Introduction to Atmospheric Thermodynamics		2
		Total	17

Fall Semester (Senior Year)

Geol 314/314L	Mineralogy & Petrology		4
BADM 407	International Business		3
MEM 401	Theoretical and Applied Ventilation Engineering		4
MEM 466	Mine Management		2
	Hum/Soc. Sci.		4
		Total	17

Spring Semester (Senior)

MEM 464	Mine Design and Feasibility Study		4
ECON 304	Managerial Economics and Finance		3
GeoE 322/322L	Structural Geology		3
MEM 405	Mine Permitting and Reclamation		3
HRM 417	Human Resource Management		3
	Total		16

Grand Total 130

Mining Technical Elective MEM 4XX – can be any one of the following or others with approval from your advisor.

MEM450/550	Rock Slope Stability
CEE 346/346L	Geotechnical Engineering
CEE 447/547	Foundation Engineering
CEE 646	Stability of Soil and Rock Slopes
GeoE 475/745L	Ground Water
BADM 350	Legal Environments for Business
BADM 370	Marketing
MEM 480/580	Advanced Explosives & Blasting

Mining Engineering Management Certificate

Industry wants to hire engineers who are not only competent in their discipline, but also have a beginning understanding of engineering management and leadership. As defined by the American Society for Engineering Management, this discipline is "the art and science of planning, organizing, allocating resources, and direction and controlling activities which have a technological component". This certificate is an opportunity for engineering students to graduate ready to meet the challenges unique to leadership in the engineering environment.

****Certificate Requirements***

IENG 302 Engineering Economy (or MEM 302)	3
IENG 366 Engineering Management	3

Elective Courses (6 credits required)

IENG 215 Cost Estimating I	1
IENG 216 Cost Estimating II	1
IENG 217 Cost Estimating III	1
IENG352-357 Entrepreneurial Sequence	1 each
IENG 451 Operations Strategies	3
IENG 455 Project Management	3
PSYC 331 Organizational Psychology	3
PSYC 399 Teams and Teaming	1
BADM 407 International Business	3
HRM 417 Human Resource Management	3
MEM 466 Mine Management	3
Senior Design with Approved EM Component	3

*All Mining students already will have taken all the required courses for this certificate; the only additional course is any one course with at least 3 credits beyond what is required for the major. Our recommended course is IENG 455 Project Management