

April 24, 2008

TO: Kaveh Tagavi
Senate Council
201 Main Bldg.
CAMPUS 0032

Dear Dr. Tagavi,

I am transmitting to you the Proposal for University Scholars Program for the M.S. Mining Engineering program combined with the B.S. Mining Engineering program. The Graduate Council approved this proposal on April 24, 2008.

Sincerely Yours,

Jeannine Blackwell, Dean
The Graduate School

Cc: Sheila Brothers

Nikou, Roshan

From: Graduate.Council.Web.Site@www.uky.edu
Sent: Tuesday, April 22, 2008 12:07 PM
To: Nikou, Roshan
Cc: Price, Cleo
Subject: Investigator Report

AnyForm User: www.uky.edu
AnyForm Document: <http://www.research.uky.edu/gc/GCInvestigatorReport.html>
AnyForm Server: www.uky.edu (/www/htdocs/AnyFormTurbo/AnyForm.php)
Client Address: 128.163.129.114

College/Department/Unit: = University Scholars in Mining Engineering

Category:_ = New

Date_for_Council_Review: = 4/22/2008

Recommendation_is:_ = Approve

Investigator: = Kert Viele

E-mail_Address = viele@ms.uky.edu

1__Modifications: = None yet. It is unclear all the electives listed in the proposal (MNG581, MNG661, MNG681) exist, as I can't find them in the bulletin. However, there are a sufficient number of other courses available. As with most engineering programs, the scheduling requires careful planning to get all requirements completed.

2__Considerations: =

3__Contacts: = Richard Sweigard regarding courses above.

4__Additional_Information: =

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April 8, 2008

Dean Jeannine Blackwell
Graduate School
Gillis Building

Dear Dean Blackwell:

The College of Engineering supports the University Scholars Program between undergraduates in the Mining Engineering program and the Mining Engineering program.

We have a student who is interested in joining this program beginning Summer 2008.

We apologize for the delay in getting this proposal to you.

Please feel free to contact me if you have questions.

Sincerely,

Richard J. Sweigard, Ph.D.
Associate Dean for Administration
and Academic Affairs

APR 08 2008

PROPOSAL

A UNIVERSITY SCHOLARS PROGRAM FOR THE M.S. MINING ENGINEERING PROGRAM COMBINED WITH THE B.S. MINING ENGINEERING PROGRAM

BACKGROUND

The M.S. program in Mining Engineering (MSMIEN) at the University of Kentucky is administered through the Mining Engineering Department and the College of Engineering. The program goals are to provide students with an advanced knowledge of applied science for use in the mining industry and to offer specified topics for specialization. Areas of specialization include Mine Ventilation, Rock Mechanics, Mine Ventilation, Rock Fragmentation & Blasting, Mine Power Systems, Mine Health & Safety, Coal Preparation and Minerals Processing. The program objectives focus on the intellectual and personal development of our students so that graduates will have:

- a detailed fundamental knowledge of a specialized area in mining engineering that can be applied to solve complex technical problems in industry or to develop a research program directed at advancing technologies and methodologies;
- the ability to develop programs to investigate problems, analyze data, and derive, communicate and implement technically and economically viable solutions;
- professional skills that will maximize job effectiveness and career success, including exceptional oral and written communication skills;
- an appreciation of the need for, and an ability to engage in continued learning throughout their adult lives, including an awareness of changing contemporary societal issues and their impact on the profession.

The MSMIEN program is available as a thesis option (Option A) or as a project option (Option B). Option A requires 24 credit hours of course work, 6 hours of thesis research and an approved thesis (Option A). Option B entails 30 credit hours of course work and a report on one or more mining related topics (Option B). The program provides specialization into one of the principle areas of mining and thus has no formal course program requirement (i.e., the program does not mandate the completion of a specific course or series of courses). However, two-thirds of the course program must be within the major, a minimum of one-half of the total credit hours must be 600 level or higher and completion of MNG 771: Mine Seminar is required.

The B.S. Mining Engineering program is a 4 year program requiring the completion of 132 credit hours. Courses include basic introduction and application of the aforementioned specialized topics. The program is accredited by the Accreditation Board of Engineering and Technology (ABET).

This document proposes the establishment of a University Scholars program that leads to dual B.S. and M.S. degrees in Mining Engineering. The program will be restricted to students who are pursuing a B.S. degree in Mining Engineering. The University Scholar program is intended to

appeal to the undergraduate students who wish to obtain a specialization in one of the principle areas in Mining Engineering. The Mining Engineering program seeks to use the University Scholars program as a recruiting tool for the graduate program. Recent studies directed by industrial leaders revealed a significant shortage of specialized mining engineers at both the M.S. and Ph.D. degree levels. The University Scholars program will be attractive to the top-level undergraduate mining engineering students who may otherwise enter an industrial position directly upon completing their B.S. degree requirements.

PROGRAM STRUCTURE

Admissions

A student desiring admission into the MSMIEN University Scholars Program is required to meet the following criteria for admission:

1. The applicant must have senior standing (completed at least 90 credits hours toward the B.S. degree).
2. The applicant must be an undergraduate pursuing a B.S. degree in Mining Engineering.
3. The applicant must have an overall grade point average of 3.2 or above on a 4.0 scale and a grade point average of 3.5 or above in Mining Engineering courses.
4. The applicant must follow the application procedures for the Graduate School and meet the admission requirements of the Graduate School and the MSMIEN program.

Applicants to the program should complete and file a University Scholars application form and a standard Graduate School application form with the Graduate School at the end of their junior year. Admission decision will be made by the Dean of the Graduate School or designated appointee.

Advising

The Director of Graduate Studies for the Mining Engineering program in collaboration with a graduate advisor will oversee the program of study for the University Scholar students. The student's undergraduate advisor will provide guidance for the undergraduate program.

M.S. MIEN University Scholar Program Options

University Scholar students in Mining Engineering will have the opportunity to choose from Option A: Thesis Option or Option B: Project Option. Under the dual degree program, the total number of credit hours completed for the combined program may be twelve (12) fewer than the total required for both the bachelor and master of science degrees. As such, the total credit hour requirement to complete both Options A or B will be 151 credit hours (= 132 undergraduate

credit hour requirement plus 19 additional graduate credits including MNG 771 seminar). The total credit hour requirement for Option A includes six credit hours of residence credit (MNG 768). The Option B program includes three credit hours of project work (MNG 780).

PROGRAM OF STUDY

The dual degree with a B.S. and M.S. in Mining Engineering will require the completion of 151 credit hours of course work for both Option A or Option B. The details of both programs are provided as attachments. All current course requirements for the B.S. degree will be maintained as published in the 2005-2006 University Bulletin. In the second semester of the Junior year, a Mineral Processing Technical Elective requirement must be fulfilled by completion of one of the following 3 credit hour courses:

MNG 575: Coal Preparation Design;
MNG 580: Mineral Processing Plant Design.

An Engineering Technical Elective requirement in the second semester of the Senior year can be satisfied with a non-Mining Engineering course taught within the College of Engineering at a 400g or 500 level or with a Mining Engineering course that is 500 level. An additional Mining Engineering Technical elective must also be completed in the same semester. The 500-level Mining Engineering courses that can be taken as a technical elective include:

MNG 511: Mine Power System Design (3 credits);
MNG 561: Mine Construction Engineering I (3 credits);
MNG 563: Simulation of Industrial Production Systems (same as MFS 563; 3 credits);
MNG 581: Geostatistics I (3 credits);
MNG 599: Topic in Mining Engineering (3 credits).

In the fifth year of study, all students must take MNG 771: Mine Seminar and complete 12 credit hours of Mining Engineering Electives that are 600 level or higher. The list of courses that can be taken to satisfy the 12 credit hour requirement include:

MNG 611: Mine Power System Protection (3 credits)
MNG 641: Advanced Mine Ventilation (3 credits)
MNG 661: Mine Construction Engineering II (3 credits)
MNG 681: Geostatistics II (3 credits)
MNG 690: Advanced Mineral Beneficiation Engineering (3 credits)
MNG 691: Simulation of Mineral Processing Circuits (3 credits)
MNG 699: Topics in Mining Engineering (3 credits)
MNG 780: Special Problems in Mining Engineering (3 credits)
MNG 790: Special Research Problems in Mining Engineering (3 credits)

The total number of credit hours for MNG 780 and 790 courses that will count towards the required 151 credit hours for the dual BS/MSMIEN degrees is 3 each.

For the thesis option (Option A), the student must take 6 credit hours of MNG 768 which involves the performance of an experimental program and data analysis leading to the formulation of a thesis. Upon completion of the thesis and approval by the graduate advisor and the Director of Graduate Studies, the thesis will be submitted to a graduate committee and a final examination administered according to Graduate School guidelines. Completion of the dual degree is recognized upon completion of the course requirements, passing the final examination and submission of an approved thesis.

Option B requires the completion of a project report which is assigned and formulated as part of the requirements in MNG 780 (a three credit hour requirement to be taken in the second semester of the fifth year). Students following the Option B program will take an additional Engineering Technical Elective (3 credit hours) that can be chosen from 600 level or higher courses offered in any engineering program within the College of Engineering. Option B students must present a project report as part of a final examination in accordance to Graduate School guidelines.

CURRICULUM LEADING TO:

**DUEL BACHELOR OF SCIENCE DEGREE IN MINING ENGINEERING (BSMIEN) &
MASTER OF SCIENCE IN MINING ENGINEERING (MSMIEN-Option A)**

FRESHMAN YEAR

FIRST SEMESTER

CHE 105 General College Chemistry I	3
CS 221 First Course in Comp. Sci. for Engineers	2
ENG 104 Writing: an Accelerated Found. Course	4
MA 113 Calculus I	4
MNG 101 Introduction to Mng. Engr.	1
* University Studies	3
	17

SECOND SEMESTER

CHE 107 General College Chemistry II	3
MA 114 Calculus II	4
MNG 264 Mining Methods	3
PHY 231 Gen University Physics	4
PHY 241 Gen. University Physics Laboratory	1
	15

SOPHOMORE YEAR

FIRST SEMESTER

EM 221 Statics	3
GLY 220 Principles of Physical Geology	4
MA 213 Calculus III	4
MNG 331 Explosives and Blasting	2
PHY 232 General University Physics	4
PHY 242 Gen. University Physics Laboratory	1
	18

SECOND SEMESTER

EM 302 Mechanics of Deformable Solids	3
MA 214 Calculus IV	3
ME 220 Engineering Thermodynamics I	3
MNG 211 Mine Surveying	2
MNG 291 Mineral Reserve Modeling	2
MNG 303 Deformable Solids Laboratory	1
MNG 332 Mine Plant Machinery	3
	17

JUNIOR YEAR

FIRST SEMESTER

COM 199 Presentational Communication Skills	1
EE 305 Electrical Circuits and Electronics	3
GLY 230 Fundamentals of Geology I	3
ME 330 Fluid Mechanics	3
MNG 301 Minerals Processing	3
MNG 302 Minerals Processing Laboratory	1
MNG 371 Professional Dev. Of Mining Engineers	3
	17

SECOND SEMESTER

ECO 201 Principles of Economics I	3
EM 313 Dynamics	3
MNG 335 Intro. To Mine Systems Analysis	3
MNG 463 Surface Mine Design and Env. Issues	3
Minerals Processing Technical Elective (500 level)	3
* † University Studies/Graduation Writing Req.	3
	18

SENIOR YEAR

FIRST SEMESTER

MNG 341 Mine Ventilation	3
MNG 431 Mine Sys. Engineering and Valuation	4
MNG 551 Rock Mechanics	4
MNG 591 Mine Design Project I	1
* University Studies	3
	15

SECOND SEMESTER

MNG 592 Mine Design Project II	3
** Supportive Elective	3
Engineering Technical Elective (400g or 500 level)	3
Mining Engr Technical Elective (500 level)	3
* University Studies	3
	15

FIFTH YEAR

FIRST SEMESTER

MNG 771 Seminar in Mining Engineering	1
Mining Engineering Elective (600 level or above)	3
Mining Engineering Elective (600 level or above)	3
Mining Engineering Elective (600 level or above)	3
	10

SECOND SEMESTER

Mining Engineering Elective (600 level or above)	3
MNG 768 Residence Credit for Master's Degree	6
	9

Total Credit Hours = 151

CURRICULUM LEADING TO:

**DUEL BACHELOR OF SCIENCE DEGREE IN MINING ENGINEERING (BSMIEN) &
MASTER OF SCIENCE IN MINING ENGINEERING (MSMIEN-Option B)**

FRESHMAN YEAR

FIRST SEMESTER

CHE 105 General College Chemistry I	3
CS 221 First Course in Comp. Sci. for Engineers	2
ENG 104 Writing: an Accelerated Found. Course	4
MA 113 Calculus I	4
MNG 101 Introduction to Mng. Engr.	1
* University Studies	3
	17

SECOND SEMESTER

CHE 107 General College Chemistry II	3
MA 114 Calculus II	4
MNG 264 Mining Methods	3
PHY 231 Gen University Physics	4
PHY 241 Gen. University Physics Laboratory	1
	15

SOPHOMORE YEAR

FIRST SEMESTER

EM 221 Statics	3
GLY 220 Principles of Physical Geology	4
MA 213 Calculus III	4
MNG 331 Explosives and Blasting	2
PHY 232 General University Physics	4
PHY 242 Gen. University Physics Laboratory	1
	18

SECOND SEMESTER

EM 302 Mechanics of Deformable Solids	3
MA 214 Calculus IV	3
ME 220 Engineering Thermodynamics I	3
MNG 211 Mine Surveying	2
MNG 291 Mineral Reserve Modeling	2
MNG 303 Deformable Solids Laboratory	1
MNG 332 Mine Plant Machinery	3
	17

JUNIOR YEAR

FIRST SEMESTER

COM 199 Presentational Communication Skills	1
EE 305 Electrical Circuits and Electronics	3
GLY 230 Fundamentals of Geology I	3
ME 330 Fluid Mechanics	3
MNG 301 Minerals Processing	3
MNG 302 Minerals Processing Laboratory	1
MNG 371 Professional Dev. Of Mining Engineers	3
	17

SECOND SEMESTER

ECO 201 Principles of Economics I	3
EM 313 Dynamics	3
MNG 335 Intro. To Mine Systems Analysis	3
MNG 463 Surface Mine Design and Env. Issues	3
Minerals Processing Technical Elective (500 level)	3
* † University Studies/Graduation Writing Req.	3
	18

SENIOR YEAR

FIRST SEMESTER

MNG 341 Mine Ventilation	3
MNG 431 Mine Sys. Engineering and Valuation	4
MNG 551 Rock Mechanics	4
MNG 591 Mine Design Project I	1
* University Studies	3
	15

SECOND SEMESTER

MNG 592 Mine Design Project II	3
** Supportive Elective	3
Engineering Technical Elective (400g or 500 level)	3
Mining Engr Technical Elective (500 level)	3
* University Studies	3
	15

FIFTH YEAR

FIRST SEMESTER

MNG 771 Seminar in Mining Engineering	1
Mining Engineering Elective (600 or above)	3
Mining Engineering Elective (600 or above)	3
Mining Engineering Elective (600 or above)	3
	10

SECOND SEMESTER

Mining Engineering Elective (600 or above)	3
Engineering Elective (600 or above)	3
MNG 780 Special Problems in Mining	3
	9

Total Credit Hours = 151

Brothers, Sheila C

From: Mendiondo, Marta
Sent: Monday, March 16, 2009 1:16 PM
To: Brothers, Sheila C
Cc: Arrington, Michael; Barnes, Thomas G; Hayes, Jane E; Schoenberg, Nancy E; Smith, Richard; Waterman, Richard; Wermeling, Daniel
Subject: SAPC

Sheila,
At the March 13th, 2009 meeting the Senate Academic Programs Subcommittee decided:

Recommend the approval of the:

- 1) New Program: MS Clinical Research** - Recommend its approval provided the name of the program is revised, due to the generality of this name and the potential confusion with the **Masters of Science in Clinical and Translational Science** already being offered (<http://ccts.uky.edu/TEAM/curriculum.aspx>).
- 2) New MS/PhD in Reproductive Sciences** – Recommend its approval provided there is no funding issues. The College of Health Sciences is offering to provide two fellowships and is asking for support for two additional ones
- 3) New University Scholars Program: BS Mining Engineering and MS Mining Engineering**
- 4) Suspend Program: Minor in Merchandising, Apparel and Textiles**

Let me know if you need any additional details.

The committee plans to discuss (and approve if there are no problems) via email the **New PhD in Epidemiology and Biostatistics** and **New MS in Epidemiology** as soon as the members have time to review them. We are trying to facilitate this year's Senate approval of these programs so they can start in August 09.

By the way, the **New MS in Epidemiology** is the full name, without **Biostatistics** for the **MS**.

Marta

Marta S. Mendiondo, PhD
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