

# CHANGE UNDERGRADUATE PROGRAM FORM

## 1. General Information

College: Engineering Department: Mining Engineering  
 Current Major Name: Mining Engineering Proposed Major Name: Mining Engineering  
 Current Degree Title: Mining Engineering Proposed Degree Title: Mining Engineering  
 Formal Option(s): NA Proposed Formal Option(s): NA  
 Specialty Field w/in Formal Option: NA Proposed Specialty Field w/in Formal Options: NA  
 Date of Contact with Associate Provost for Academic Administration<sup>1</sup>: Sept 30, 2011  
 Bulletin (yr & pgs): 2011/2012, pp 222-223 CIP Code<sup>1</sup>: 14.2101 Today's Date: 09/30/2011  
 Accrediting Agency (if applicable): ABET, Inc  
 Requested Effective Date:  Semester following approval. OR  Specific Date<sup>2</sup>: Fall 2012  
 Dept. Contact Person: Joseph Sottile Phone: 257-4616 Email: jsottile@enr.uky.edu

## 2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

**Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:**

1. Intellectual Inquiry  
Arts and Creativity - Select  
Humanities - Select  
Social Sciences - Select  
Natural/Physical/Mathematical Sciences - PHY 231 & 241  
2. Composition and Communication  
Composition and Communication I - Select (CIS or WRD 110)  
Composition and Communication II - Select (CIS or WRD 111)  
3. Quantitative Reasoning  
Quantitative Foundations - MA 113  
Statistical Inferential Reasoning - Select  
4. Citizenship  
Community, Culture, and Citizenship in the USA - Select  
Global Dynamics - Select

**Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.**

General Education Area	Course	Credit Hrs
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<sup>1</sup> Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

<sup>2</sup> Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

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<b>I. Intellectual Inquiry (one course in each area)</b>			
Arts and Creativity		<u>MNG 592</u>	<u>3</u>
Humanities		<u>Select</u>	<u>3</u>
Social Sciences		<u>Select</u>	<u>3</u>
Natural/Physical/Mathematical		<u>PHY 231&amp;241</u>	<u>5</u>
<b>II. Composition and Communication</b>			
Composition and Communication I		CIS or WRD 110	3
Composition and Communication II		CIS or WRD 111	3
<b>III. Quantitative Reasoning (one course in each area)</b>			
Quantitative Foundations <sup>3</sup>		<u>MA 113</u>	<u>4</u>
Statistical Inferential Reasoning		<u>MNG 335</u>	<u>3</u>
<b>IV. Citizenship (one course in each area)</b>			
Community, Culture and Citizenship in the USA		<u>Select</u>	<u>3</u>
Global Dynamics		<u>Select</u>	<u>3</u>
<b>Total General Education Hours</b>			<u>33</u>

**3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).**

None.

**4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.**

Current

Standard University course offering.

List: \_\_\_\_\_

Specific course – list: MNG 371

Proposed

Standard University course offering.

List: \_\_\_\_\_

Specific course) – list: MNG 371

**5. List any changes to college-level requirements that must be satisfied.**

Current

Standard college requirement.

List: No change

Specific required course – list: \_\_\_\_\_

Proposed

Standard college requirement.

List: No change

Specific course – list: \_\_\_\_\_

**6. List pre-major or pre-professional course requirements that will change, including credit hours.**

Current

CHE 105 (3)

Comp and Com I (3)

MA 113 (4)

MA 114 (4)

MA 213 (4)

PHYS 231 (4)

Proposed

CHE 105 (3)

Comp and Com I (3)

MA 113 (4)

MA 114 (4)

MA 213 (4)

PHYS 231 (4)

<sup>3</sup> Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

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Plus an additional 13 credit hours applicable towards the degree in mining engineering

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**7. List the major's course requirements that will change, including credit hours.**

Current	Proposed
<u>CHE 107 (3)</u>	<u>CHE 107 (3)</u>
<u>COM 199 (1)</u>	<u>CS 221 (2)</u>
<u>CS 221 (2)</u>	<u>EE 305 (3)</u>
<u>ECO 201 (3)</u>	<u>EM 221 (3)</u>
<u>EE 305 (3)</u>	<u>EM 313 (3)</u>
<u>EM 221 (3)</u>	<u>EM 302 (3)</u>
<u>EM 313 (3)</u>	<u>GLY 220 (4)</u>
<u>EM 302 (3)</u>	<u>GLY 230 (3)</u>
<u>GLY 220 (4)</u>	<u>MA 214 (3)</u>
<u>GLY 230 (3)</u>	<u>ME 220 (3)</u>
<u>MA 214 (3)</u>	<u>ME 330 (3)</u>
<u>ME 220 (3)</u>	<u>MNG 101 (1)</u>
<u>ME 330 (3)</u>	<u>MNG 191 (1)</u>
<u>MNG 101 (1)</u>	<u>MNG 211 (2)</u>
<u>MNG 211 (2)</u>	<u>MNG 264 (3)</u>
<u>MNG 264 (3)</u>	<u>MNG 291 (2)</u>
<u>MNG 291 (2)</u>	<u>MNG 301 (3)</u>
<u>MNG 301 (3)</u>	<u>MNG 302 (1)</u>
<u>MNG 302 (1)</u>	<u>MNG 303 (1)</u>
<u>MNG 303 (1)</u>	<u>MNG 322 (2)</u>
<u>MNG 322 (2)</u>	<u>MNG 331 (2)</u>
<u>MNG 331 (2)</u>	<u>MNG 332 (3)</u>
<u>MNG 332 (3)</u>	<u>MNG 335 (3)</u>
<u>MNG 335 (3)</u>	<u>MNG 341 (3)</u>
<u>MNG 341 (3)</u>	<u>MNG 371 (3)</u>
<u>MNG 371 (3)</u>	<u>MNG 435 (4)</u>
<u>MNG 431 (2)</u>	<u>MNG 463 (3)</u>
<u>MNG 463 (3)</u>	<u>MNG 551 (4)</u>
<u>MNG 551 (4)</u>	<u>MNG 591 (1)</u>
<u>MNG 591 (1)</u>	<u>MNG 592 (3)</u>
<u>MNG 592 (3)</u>	<u>PHY 232 (4)</u>
<u>PHY 232 (4)</u>	<u>PHY 241 (1)</u>
<u>PHY 241 (1)</u>	<u>PHY 242 (1)</u>
<u>PHY 242 (1)</u>	<u>Subtotal: Major Hours (84)</u>
<u>Subtotal: Major Hours (85)</u>	

**8. Does the pgm require a minor AND does the proposed change affect the required minor?**  N/A     Yes     No  
 If "Yes," indicate current courses and proposed changes below.

Current	Proposed

**9. Does the proposed change affect any option(s)?**  N/A     Yes     No  
 If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

Current	Proposed

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**10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field?**

Yes  No

If so, indicate current courses and proposed changes below.

Current	Proposed
<u>ECO 201 (3)</u>	<u>Drop ECO 201</u>
<u>COM 199 (1)</u>	<u>Drop COM 199</u>

**11. Does the change affect pgm requirements for technical or professional support electives?**

Yes  No

If so, indicate current courses and proposed changes below.

Current	Proposed

**12. Does the change affect a minimum number of free credit hours or support electives?**

Yes  No

If "Yes," indicate current courses and proposed changes below.

Current	Proposed

**13. Summary of changes in required credit hours:**

	Current	Proposed
a. Credit Hours of Premajor or Preprofessional Courses:	<u>35</u>	<u>35</u>
b. Credit Hours of Major's Requirements:	<u>85</u>	<u>84</u>
c. Credit Hours for Required Minor:	<u>N/A</u>	<u>N/A</u>
d. Credit Hours Needed for a Specific Option:	<u>N/A</u>	<u>N/A</u>
e. Credit Hours Outside of Major Subject in Related Field:	<u>N/A</u>	<u>N/A</u>
f. Credit Hours in Technical or Professional Support Electives:	<u>N/A</u>	<u>N/A</u>
g. Minimum Credit Hours of Free/Supportive Electives:	<u>3</u>	<u>3</u>
h. Total Credit Hours Required by Level:	100: <u>22 minimum</u>	<u>22 minimum</u>
	200: <u>42 minimum</u>	<u>39 minimum</u>
	300: <u>33 minimum</u>	<u>33 minimum</u>
	400-500: <u>16 minimum</u>	<u>18 minimum</u>
i. Total Credit Hours Required for Graduation:	<u>137</u>	<u>133</u>

**14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to that.**

Changes in this proposal are based on the Department of Mining Engineering continuous improvement process required by ABET, Inc.

Summary of Changes and Rationale for them:

1. Dropping COM 199 - COM 199 plus one credit from MNG 371 and one credit from MNG 592 were used to fulfill the old USP requirement for oral communication. Because of the new UKCore courses in Comp and Com, this course is no longer needed. In addition, COM 199 will not be offered after Spring 2012.

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2. Dropping ECO 201 - ECO 201 was a required course primarily because it fulfilled one of the USP Social Science requirements. Because this requirement no longer exists, ECO 201 is being dropped as a required course. Specific topics in economics will be included in MNG 435.

3. Addition of MNG 191 - Our continuous improvement process (required by ABET, Inc.) has indicated that our students need more exposure to modern mine layout and design software. Because of this, we have added MNG 191 - "Mine Graphics" to the curriculum.

4. Modification of MNG 291 - Our continuous improvement process (required by ABET, Inc.) has indicated that our students need more exposure to modern mine layout and design software. Because of this, we have modified the content of MNG 291 - "Mineral Reserve Modeling" to include elements of mine design. Because of this major revision, we have renamed the course to "Elements of Mine Design".

5. Modifications to MNG 591 and MNG 592 - The current curriculum (in this application) lists MNG 591 as a 1-credit course and MNG 592 as a 3-credit course. This is because the Course Change Applications for both courses were submitted last year to change them from two, 2-credit courses to the one- and three-credit course listed here. In addition, MNG 592 has been approved to fulfill the UK Core Requirement for Inquiry - Arts and Creativity. This proposal is based on those course changes being approved.

6. Addition of MNG 435 and elimination of MNG 431 - MNG 431 is a two-credit mine systems analysis course. It is being eliminated and will be replaced with MNG 435, a four-credit course covering mine systems engineering and economics.

7. This program change contains a course change application for MNG 335 - "Introduction to Mine Systems Analysis". These changes are based on modifications in the course to have it satisfy the UK Core requirement in statistical inferential reasoning.

8. Changes to prerequisites in several courses - This request includes minor course changes in MNG 211, MNG 264, MNG 331, MNG 322, MNG 332, and MNG 551. The requested changes in these courses are for course prerequisites only, so changes in these courses are not part of the curriculum change. However, they have been submitted with this request for program change.

Note: Referring to 13.h., Mining Engineering has no specific minimum credit hour requirements by level (beyond the college requirement of 24 or more credit hours of departmental courses at or above the 300 level). Consequently, the minimum values listed in 13.h. are based on required courses at each level.

**15. List below the typical semester by semester program for the major. If multiple options are available, attach a separate sheet for each option.**

<b>YEAR 1 – FALL:</b> (e.g. "BIO 103; 3 credits")	<u>See Attachment</u>	<b>YEAR 1 – SPRING:</b>	<u>See Attachment</u>
<b>YEAR 2 - FALL :</b>	<u>See Attachment</u>	<b>YEAR 2 – SPRING:</b>	<u>See Attachment</u>
<b>YEAR 3 - FALL:</b>	<u>See Attachment</u>	<b>YEAR 3 - SPRING:</b>	<u>See Attachment</u>
<b>YEAR 4 - FALL:</b>	<u>See Attachment</u>	<b>YEAR 4 - SPRING:</b>	<u>See Attachment</u>

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## Signature Routing Log

**General Information:**

Current Degree Title and Major Name: Mining Engineering

Proposal Contact Person Name: Joe Sottile

Phone: 257-4616

Email: jsottile@engr.uky.edu

**INSTRUCTIONS:**

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

**Internal College Approvals and Course Cross-listing Approvals:**

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
<i>Mining Department</i>	<i>10/7/2011</i>	<i>Rick Honaker / 7-1108 / rhonaker@engr.uky.edu</i>	<i>Rick Honaker</i>
Engineering Faculty	11/28/11	rsweigar@engr.uky.edu Richard J. Sweigard	
		/ /	
		/ /	
		/ /	

**External-to-College Approvals:**

Council	Date Approved	Signature	Approval of Revision <sup>4</sup>
Undergraduate Council	2/14/2012	Sharon Gill	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

<sup>4</sup> Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

## 15. Typical semester-by-semester program – Current

FRESHMAN YEAR				JUNIOR YEAR			
<b>First Semester - Fall (16)</b>				<b>First Semester - Fall (18)</b>			
CHE 105 Gen Col Chem I	3			EE 305 Elec Circ & Electronics			3
CS 221 First CS Course for Engrs.	2			GLY 230 Fund of Geol I			3
Comp and Com I (CIS/WRD 110)	3			ME 330 Fluid Mechanics			3
MA 113 Calculus I - QR Foundations	4			MNG 211 Mine Surveying			2
MNG 101 Intro to Mining Engr	1			MNG 301 Minerals Proc			3
Inquiry-Humanities	3			MNG 302 Min Proc Lab			1
				MNG 371 Prof Dev of Min Engrs/GWR			3
<b>Second Semester - Spring (16)</b>				<b>Second Semester - Spring (17)</b>			
CHE 107 Gen Col Chem II	3			ECO 201 - Prin of Econ I			3
MA 114 Calculus II	4			EM 313 Dynamics			3
MNG 264 Mining Methods	3			MNG 322 Mine Safety & Health Mgmt			2
PHY 231 Gen Univ Phy - Inquiry N/P/M	4			MNG 335 Intro to Mine Sys			3
PHY 241 Gen Univ Phy Lab - Inquiry N/P/M	1			MNG 463 Sur Mine Des & Env Iss			3
COM 199	1			Min Proc Tech Elec			3
<b>SOPHOMORE YEAR</b>				<b>SENIOR YEAR</b>			
<b>First Semester - Fall (18)</b>				<b>First Semester - Fall (16)</b>			
EM 221 Statics	3			MNG 341 Mine Ventilation			3
GLY 220 Prin of Phy Geol	4			MNG 431 Mining Engineering Econ.			2
MA 213 Calculus III	4			MNG 551 Rock Mechanics			4
MNG 331 Expl and Blasting	2			*MNG 591 Mine Design Proj I			1
PHY 232 Gen Univ Phy	4			Citizenship - USA			3
PHY 242 Gen Univ Phy Lab	1			QR - Stat Reasoning			3
<b>Second Semester - Spring (18)</b>				<b>Second Semester - Spring (18)</b>			
EM 302 Mech of Deform Sol	3			*MNG 592 Mine Design Proj II			3
MA 214 Calculus IV	3			Citizenship - Global			3
ME 220 Engr Thermo I	3			Technical Elective			3
Comp and Com II (CIS/WRD 111)	3			Technical Elective			3
MNG 291 Mineral Reserve Mod	2			Inquiry - Social Science			3
MNG 303 Deform Sol Lab	1			Supportive Elective			3
MNG 332 Mine Plant Mach	3						
				<b>Total Credits</b>			<b>137</b>

**\*Note: Course Change Applications for MNG 591 and MNG 592 have been previously submitted.**

## 15. Typical semester-by-semester program - Proposed

FRESHMAN YEAR				JUNIOR YEAR			
<b>First Semester - Fall</b>		<b>16</b>		<b>First Semester - Fall</b>		<b>18</b>	
CHE 105 Gen Col Chem I	3			EE 305 Elec Circ & Electronics	3		
CS 221 First CS Course for Engrs.	2			GLY 230 Fund of Geol I	3		
Comp and Com I (CIS/WRD 110)	3			ME 330 Fluid Mechanics	3		
MA 113 Calculus I - QR Foundations	4			MNG 211 Mine Surveying	2		
MNG 101 Intro to Mining Engr	1			MNG 301 Minerals Proc	3		
Inquiry-Social Science	3			MNG 302 Min Proc Lab	1		
				MNG 335 Intro to Mine Sys	3		
<b>Second Semester - Spring</b>		<b>16</b>		<b>Second Semester - Spring</b>		<b>16</b>	
CHE 107 Gen Col Chem II	3			EM 313 Dynamics	3		
MA 114 Calculus II	4			MNG 371 Prof Dev of Mng Engrs	3		
MNG 264 Mining Methods	3			MNG 435 Mine Sys Engr and Economics	4		
MNG 191 Mine Graphics	1			MNG 463 Sur Mine Des & Env Iss	3		
PHY 231 Gen Univ Phy - Inquiry N/P/M	4			Min Proc Tech Elec	3		
PHY 241 Gen Univ Phy Lab - Inquiry N/P/M	1						
SOPHOMORE YEAR				SENIOR YEAR			
<b>First Semester - Fall</b>		<b>18</b>		<b>First Semester - Fall</b>		<b>14</b>	
EM 221 Statics	3			MNG 332 Mine Plant Machinery	3		
GLY 220 Prin of Phy Geol	4			MNG 341 Mine Ventilation	3		
MA 213 Calculus III	4			MNG 551 Rock Mechanics	4		
MNG 331 Expl and Blasting	2			MNG 591 Mine Design Proj I	1		
PHY 232 Gen Univ Phy	4			Citizenship - USA	3		
PHY 242 Gen Univ Phy Lab	1						
<b>Second Semester - Spring</b>		<b>17</b>		<b>Second Semester - Spring</b>		<b>18</b>	
MA 214 Calculus IV	3			MNG 592 Mine Design Proj II	3		
Comp and Com II (CIS/WRD 111)	3			Citizenship - Global	3		
EM 302 Mech of Deform Sol	3			Technical Elective	3		
ME 220 Engr Thermo I	3			Technical Elective	3		
MNG 291 Elements of Mine Design	2			Inquiry - Humanities	3		
MNG 303 Deform Sol Lab	1			Supportive Elective	3		
MNG 322 Mine Safety and Health Mgmt	2						
				<b>Total Credits</b>	<b>133</b>		