APPLICATION FOR NEW COURSE

1. Submitted by the College of Engineering Date: 2-February-2009

   Department/Division proposing course: Mining Engineering

2. Proposed designation and Bulletin description of this course:

   a. Prefix and Number MNG 322

   b. Title* Mine Safety and Health Management and Processes

   *If title is longer than 24 characters, offer a sensible title of 24 characters or less: Mine Safety and Health

   c. Courses must be described by at least one of the categories below. Include number of actual contact hours per week..

   (___) CLINICAL (___) COLLOQUIUM (___) DISCUSSION (___) LABORATORY (2) LECTURE
   (___) INDEPEND. STUDY (___) PRACTICUM (___) RECITATION (___) RESEARCH (___) RESIDENCY
   (___) SEMINAR (___) STUDIO (_____) OTHER – Please explain:

   d. Please choose a grading system: ☒ Letter (A, B, C, etc.) ☐ Pass/Fail

   e. Number of credit hours: 2

   f. Is this course repeatable? YES ☐ NO ☒ If YES, maximum number of credit hours: _____

   g. Course description:

   MNG 322: Mine Safety and Health Management and Processes, 2 cr. History and overview of mine health and safety; effective health and safety management systems; building a health and safety culture; hazard anticipation and identification, risk management and hazard control; Federal processes for health and safety system management; mine safety and health resources; mine laws, including safety regulations and interpretations for mining engineers and supervisors; and contemporary issues in mine safety.

   h. Prerequisite(s), if any:

   MNG 101

   Concur: MNG 264

   i. Will this course also be offered through Distance Learning? YES ☐ NO ☒
   If YES, please check one of the methods below that reflects how the majority of the course content will be delivered:

   Internet/Web-based ☐ Interactive video ☐ Extended campus ☐

3. Supplementary teaching component: ☒ N/A or ☐ Community-Based Experience ☐ Service Learning ☐ Both

4. To be cross-listed as: _____ (Prefix and Number) _____ / _____ (printed name / Cross-listing Department Chair signature)

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5. Requested effective date (term/year): Spring / 2010

6. Course to be offered (please check all that apply): ☐ Fall ☒ Spring ☐ Summer

7. Will the course be offered every year? ☒ YES ☐ NO

   If NO, please explain: _____

8. Why is this course needed?

   Program assessment indicated a need for Mine Safety and Health Management course.

9. a. By whom will the course be taught? TBD

   b. Are facilities for teaching the course now available? ☒ YES ☐ NO

   If NO, what plans have been made for providing them?

10. What yearly enrollment may be reasonably anticipated?

    20-25

11. a. Will this course serve students primarily within the department? ☒ Yes ☐ No

    b. Will it be of interest to a significant number of students outside the department? ☐ YES ☒ NO

    If YES, please explain.

12. Will the course serve as a University Studies Program course[†]? ☐ YES ☒ NO

    If YES, under what Area? _____

    [†]AS OF SPRING 2007, THERE IS A MORATORIUM ON APPROVAL OF NEW COURSES FOR USP.

13. Check the category most applicable to this course:

    ☒ traditional – offered in corresponding departments at universities elsewhere

    ☐ relatively new – now being widely established

    ☐ not yet to be found in many (or any) other universities

14. Is this course applicable to the requirements for at least one degree or certificate at UK? ☒ Yes ☐ No

15. Is this course part of a proposed new program? ☐ YES ☒ NO

    If YES, please name: _____

16. Will adding this course change the degree requirements for ANY program on campus? ☒ YES ☐ NO

    If YES[‡], list below the programs that will require this course:

    This course is part of a proposed curriculum change to mining engineering.

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‡In order to change the program(s), a program change form(s) must also be submitted.

17. ☒ The major teaching objectives of the proposed course, syllabus and/or reference list to be used are attached.

18. ☐ Check box if course is 400G or 500. If the course is 400G- or 500-level, *you must include a syllabus showing differentiation* for undergraduate and graduate students by (i) requiring additional assignments by the graduate students; and/or (ii) the establishment of different grading criteria in the course for graduate students. (See *SR 3.1.4)*

19. Within the department, who should be contacted for further information about the proposed new course?

Name: Dr. G.T. Lineberry Phone: 257-2833 Email: gtli@engr.uky.edu

20. Signatures to report approvals:

11-11-08	Rick Honaker / Rick Honaker	
DATE of Approval by Department Faculty	printed name	Reported by Department Chair signature
11-20-09	RICHARD J. SWEIGARD / Richard J. Sweigard	
DATE of Approval by College Faculty	printed name	Reported by College Dean signature
01/19/2010	Sharon Gill / Digitally signed by Sharon Gill DN: cn=Sharon Gill, o, ou=Undergraduate Education, email=sgill@uky.edu, c=US Date: 2010.02.03 15:18:30 -05'00'	
* DATE of Approval by Undergraduate Council	printed name	Reported by Undergraduate Council Chair signature
	/	
* DATE of Approval by Graduate Council	printed name	Reported by Graduate Council Chair signature
	/	
* DATE of Approval by Health Care Colleges Council (HCCC)	printed name	Reported by Health Care Colleges Council Chair signature
* DATE of Approval by Senate Council		Reported by Office of the Senate Council
* DATE of Approval by University Senate		Reported by Office of the Senate Council

*If applicable, as provided by the *University Senate Rules*. (http://www.uky.edu/USC/New/RulesandRegulationsMain.htm)

MNG 322: Mine Safety and Health Management and Processes
Spring 2010

Catalog Description: MNG 322: Mine Safety and Health Management and Processes, 2 cr. History and overview of mine health and safety; effective health and safety management systems; building a health and safety culture; hazard anticipation and identification, risk management and hazard control; Federal processes for health and safety system management; mine safety and health resources; mine laws, including safety regulations and interpretations for mining engineers and supervisors; and contemporary issues in mine safety. Prereq: MNG 101. Concur: MNG 264.

Time/Place: TBA

Text: Karmis, Michael, 2001, *Mine Health and Safety Management*, SME: Littleton, CO, 452 pp. (Available through SME on-line bookstore for $69 for student members of SME.)

Course Readings:

Federal Mine Safety & Health Act of 1977, Public Law 91-173, as amended by Public Law 95-164, U. S. Government Printing Office, 2000. This reference is available on line: http://www.msha.gov/REGS/ACT/ACTTC.HTM
Office of the Federal Register, National Archives and Records Administration, *Code of Federal Regulations 30 – Mineral Resources, Parts 1 to 199,* Washington D.C.: U.S. Government Printing Office, 2000. This reference is available on line: http://www.msha.gov/30cfr/CFRINTRO.HTM
Mine Improvement and New Emergency Response Act of 2006 (S2803) This reference is on line: http://www.msha.gov/MinerAct/MinerActSingleSource.asp

Course Coordinators: Dr. G. T. Lineberry, Professor of Mining Engineering; 257-2833, gtli@engr.uky.edu and Dr. Joseph Sottile, Professor of Mining Engineering; 257-4616, jsottile@engr.uky.edu.

Office/ Hours: TBA

Course Goals: To enable the student to demonstrate an ability to recognize and apply effective mine health and safety management systems; to gain a working knowledge of major mining codes and regulations; and to understand the process for promulgation of these codes and regulations.

Course Learning Outcomes **Student shall be able to….**	**Program Learning Outcome(s)**[1]
1. Demonstrate the capacity to recognize and apply effective mine health and safety management systems in order to be prepared to build a climate conducive to a healthful and safe mining work place.	(e) (f)
2. Articulate the Federal processes for health and safety management, including the process for promulgation of codes and regulations for the mining industry.	(f) (g)
3. Locate and apply major mining laws (both Federal and State) that are most critical for the entry-level mining engineer	(f)
4. Understand the impact on mining engineering practice of a number of contemporary	

[1] Students should refer to Departmental web site, http://www.engr.uky.edu.mng/undergraduate/ for current program outcomes.

	issues confronting the mining engineering profession (e.g., MINER Act of 2006, contractor safety, innovative tools for mine safety education and training.	(f) (j)
5.	Identify, locate, and apply a current mine safety education or training intervention to an audience-appropriate peer group, hence improving oral and written communication skills.	(g) (i)

Topics Covered (class time approximated, with some topics covered by invited experts):

1. History and overview of mine safety and health, with emphasis on the U.S. (1 class)
2. Health and safety system management (2 classes)
3. Causes and effects of loss (1 class)
4. Common measurement techniques in safety management (2 classes)
5. Behavioral science to improve mine safety (1 class)
6. Engineering for mine safety and health improvement (1 class)
7. Federal and State regulatory processes (3 classes)
8. Other agencies involved in mine safety and health (1 class)
9. Elements of an underground mine permit application from a health and safety perspective (1 class)
10. Processes and resources for mine health and safety education and training (includes a field trip to the Mine Health & Safety Academy, Beaver, WV) (3 classes)
11. Inspection and auditing (0.5 class)
12. Incidence reporting and analysis (0.5 class)
13. Safety communications (1 class)
14. MINER Act of 2006 and the ramifications on the U.S. mining industry (2 classes)
15. Role of management and role of miner in mine safety and health (including training mandated by the Code of Federal Regulations, Parts 48 and 46) (1 class)
16. Hazard identification, risk management, and hazard control (1 classes)
17. Other hazards in mining, with an emphasis on regulatory impact on mining operations (e.g., ground control, mine fires and explosions, explosives and blasting, haulage, and electrical safety) (1 class)
18. Class presentations (equivalent to 2 classes)
19. Current mine safety and health issues (e.g, contractor safety, emergency preparedness and response, emergency communication and tracking, application of computer graphics and virtual reality in safety training) (2 classes)
20. Tests and quizzes (equivalent to 3 classes)

Grading System:

Bi-weekly quizzes (over assigned readings)*	30.0%	(6 @ 5%/quiz)
Unit tests (equal weight)*	30.0%	
Field trip and summary report	7.5%	
Term mini-project (written and oral)	7.5%	
Final exam (comprehensive)**	25.0%	
	100%	

For the mini-project, teams of 2-3 students will be assigned an actual safety training intervention and will be expected to design a 15-20-min training session, appropriate for a specific mining audience (e.g., mine section supervisors, mechanics, electricians, novice miners, contractors, vendors). An evaluation of the intervention will be included in the final report.

Grade Scale: 90+, A; 80-90, B; 70-80, C; 60-70, D; <60, E. Assignments must be submitted on the date/time unless otherwise approved in advance. Late, out-of-class work will be accepted within one day of the due date, but with a 5-pt penalty applied. All in-class assessments (tests/quizzes) must be completed and turned in within the time allotted.

Attendance Policy: Class attendance is a course requirement. A student must arrive within 5 minutes of the scheduled start of the class period and must stay for the remainder of the period to

be credited for attendance. By agreement by all Departmental faculty members, there is a 5% grade penalty for each week-equivalent of class that is missed due to unexcused absences. For example, since MNG 332 meets three times per week, the following grade reductions would be incurred:

No. of Unexcused Absences	Grade Reduction
1-2	None
3-4	5%
5-6	10%
7-8	15%, etc.

Excused absences, as defined in the University Bulletin, are not counted in this total.

* A minimum of 5 calendar days' notice will be given before all quizzes and tests.
** May be moved to alternative time during exam week, with unanimous, signed consent of each member of class.