MINE 400 – Mine Management and Administration
Spring Semester 2015

Course Syllabus

Instructor:  Danny Taylor, LMR 268, 784-6922, dtaylor@mines.unr.edu

Office Hours:  TBA

2014 Course Description:

Principles of management applied to an operating mine. Including: ethics, health and safety, environmental responsibilities, and communication skills.

What:

This course is a study in how the areas of Health Safety and Loss Prevention (HSLP) relate to the basic tenets of Engineering Ethics including workplace safety, environmental responsibilities and community relations. Basic principles of leadership are applied in implementing these concepts.

The primary focus of the course is the ethical basis for actions involving the Health and Safety of others. The Primary Canon of Engineering Ethics is that the Engineer will “hold paramount the Health, Safety and Welfare of the public.” From this basic principle, the responsibilities of the engineer to not only the general public, but to the employees in his/her organization can be derived making it the Engineer’s responsibility to design and implement procedures that will result in minimizing workplace accidents as well as adverse environmental impacts.

How:

The format of the class will be an open discussion and analysis of various facets of the subject matter. A consideration of the basic principles of Professional Ethics, i.e., a prioritized Canon leading to Rules of Practice, will demonstrate how different professions (Medicine, Law and Engineering) have developed different standards of
ethical conduct. Case Studies in Engineering Ethics will be used as a basis of discussion of these basic principles.

The Rules of Practice for engineers can be shown to require the development of standards for HSLP as part of the Primary Canon. Class discussions will then investigate the history of Health & Safety laws in the Mineral Industry by analysis of significant changes in regulation and industry attitudes stemming from mine disasters both historical and recent.

Finally, a discussion on the design of effective HSLP programs utilizing Behavioral Based Models will cover the aspects of ethical leadership both within an organization as well as relations with external stakeholders.

**Required texts, course materials:**

Course materials will mostly be from various websites such as:

Engineering ethics:
- [http://www.nspe.org/resources/ethics](http://www.nspe.org/resources/ethics)
- [http://www.onlineethics.org/](http://www.onlineethics.org/)
- [http://ethics.tamu.edu/CaseStudies.aspx](http://ethics.tamu.edu/CaseStudies.aspx)

Mine Safety & Health:

Behavioral based safety programs:

**Prerequisites:**

Senior standing in Mining or Metallurgical Engineering

**Course Objectives:**

1. Provide an understanding of the role Engineering Ethics in our modern society
2. To understand the relationship of Engineering Ethics to the Engineer’s responsibility for Health, Safety and Loss Prevention.
3. To understand the role of Behavioral Based Programs in achieving effective HSLP improvements.

**Student Learning Outcomes:**
1. Students will be able to identify the Canons of Engineering Ethics and the associated Rules of Practice and apply these to cases studies to identify ethical behavior.
2. Students will understand the history and development of Safety Regulations in the mining industry and identify mining disasters that have led to significant changes in these regulations and their enforcement.
3. Students will be able to identify the components of Behavioral Based Safety Programs and understand how they can be used to create a corporate culture that values HSLP.
4. Students will be able to articulate their analyses in these areas both in written and oral forms.

Description of Assignments: exams, quizzes, projects, papers.

Short Assignments will consist of short essays (1-2 pages) analyzing Case Study scenarios involving ethical dilemmas both fictional and factual.

Medium length assignment of 5-10 pages will examine an actual mine disaster in terms of the responsibility of engineers involved and the resulting impact on safety regulations. Each student will be assigned a different incident.

A final assignment of 5-10 pages will require the student to apply the concepts of Professional Ethics, Ethical Leadership and Corporate Culture to a specific topic to be determined for the class as a whole.

The Class Participation portion of the grade is a subjective evaluation by me of your contribution to the class discussions. While attendance is not mandatory, if you're not there, you can't participate in discussions. On the other hand, just showing up is not, per se, participation.

Grading Criteria:

Grading for this class will be based on the following:

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<th>Per Cent</th>
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<tr>
<td>Short Assignments</td>
<td>30%</td>
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<tr>
<td>Mine Disaster Paper</td>
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<tr>
<td>Final Paper</td>
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Grades will be based on total points with the following breakout:

A: 100-90%
B: 89-80%
C: 79-70%
D: 69-60%
F: >59%

Late work and make-up of missed exams will be at the discretion of the Instructor and decided on a case-by-case basis as to the cause of the late or missed assignments. Health and family issues would typically be considered acceptable excuses. Any excuse, other than unforeseen medical or family issues must be approved in advance.

**Silver Core Learning Objectives:**
One Silver Core Learning Objective is satisfied in this course:

CO12. Ethics. Students will evaluate the ethical principles in application of specialized knowledge, results of research, creative expression, or design processes. Students will demonstrate an ability to assess their own ethical values and the social context of problems, recognize ethical issues in a variety of settings, consider how ethical principles might be applied to ethical dilemmas, and consider the ramifications of various actions.

CO-12 is satisfied in the course through SLO-1, 2 and 3. These Outcomes focus on the application of a particular standard of Ethics (Professional Engineering Ethics) to various settings and in particular how these ethical principles dictate courses of action with regard to Health Safety and Loss Prevention regarding both work place safety and environmental responsibility to external stakeholders.

The assessment of CO-12 will be through all of the assignments in the course as the entire focus of the course is the application of Engineering Ethics to Real World situations. Through the short assignments, the mine disaster analysis and the final paper the students will demonstrate that they have an understanding of the relationship between Ethical Principles and Ethical Behavior and how this relationship can be applied to improve the wellbeing of the people involved in and affected by mining operations.

**Academic Dishonesty:**
“Cheating, plagiarism or otherwise obtaining grades under false pretenses" constitute academic dishonesty according to the code of this university. Academic dishonesty will not be tolerated and
penalties can include canceling a student's enrollment without a grade, giving an F for the course or for the assignment. For more details, see the University of Nevada, Reno General Catalog.

**Disability Services:**
Any student with a disability needing academic adjustments or accommodations is requested to speak with me or the Disability Resource Center (Thompson Building, Suite 101) as soon as possible to arrange for appropriate accommodations.

**Academic Success Services:**
Your student fees cover usage of the Math Center (784-4433 or [www.unr.edu/mathcenter/](http://www.unr.edu/mathcenter/)), Tutoring Center (784-6801 or [www.unr.edu/tutoring-center](http://www.unr.edu/tutoring-center)), and University Writing Center (784-6030 or [http://www.unr.edu/writing-center](http://www.unr.edu/writing-center)). These centers support your classroom learning; it is your responsibility to take advantage of their services. Keep in mind that seeking help outside of class is the sign of a responsible and successful student.

**Statement on Audio and Video Recording:**
Surreptitious or covert video-taping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. This class may be videotaped or audio recorded only with the written permission of the instructor. In order to accommodate students with disabilities, some students may have been given permission to record class lectures and discussions. Therefore, students should understand that their comments during class may be recorded.

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<td><strong>Final Project Presentations</strong></td>
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