

COURSE CHANGE FORM

Complete 1a – 1f & 2a – 2c. Fill out the remainder of the form as applicable for items being changed.

1. General Information.

- a. Submitted by the College of: Engineering Today's Date: 9/26/2011
- b. Department/Division: Mining Engineering
- c. Is there a change in "ownership" of the course? YES NO
 If YES, what college/department will offer the course instead? _____
- d. What type of change is being proposed? Major Minor¹ (place cursor here for minor change definition)
- e. Contact Person Name: Rick Honaker Email: rhonaker@engr.uky.edu Phone: 257-1108
- f. Requested Effective Date: Semester Following Approval OR Specific Term²: Fall 2012

Comment [OSC1]: Excerpt from SR 3.3.0.G.2 Definition. A request may be considered a minor change if it meets one of the following criteria:
 a. change in number within the same hundred series*;
 b. editorial change in the course title or description which does not imply change in content or emphasis;
 c. a change in prerequisite(s) which does not imply change in content or emphasis, or which is made necessary by the elimination or significant alteration of the prerequisite(s); d. a cross-listing of a course under conditions set forth in SR 3.3.0.E;
 e. correction of typographical errors.

*...for the specific purposes of the minor exception rule, the 600-799 courses are the same "hundred series," as long as the other minor change requirements are complied with. [RC 1/15/09]

2. Designation and Description of Proposed Course.

- a. Current Prefix and Number: MNG 291 Proposed Prefix & Number: MNG 291
- b. Full Title: Mineral Reserve Modeling Proposed Title: Elements of Mine Design
- c. Current Transcript Title (if full title is more than 40 characters): _____
 Proposed Transcript Title (if full title is more than 40 characters): _____
- d. Current Cross-listing: N/A OR Currently³ Cross-listed with (Prefix & Number): _____
 Proposed – ADD³ Cross-listing (Prefix & Number): _____
 Proposed – REMOVE^{3,4} Cross-listing (Prefix & Number): _____

e. Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours⁵ for each meeting pattern type.

Current: 1 Lecture 2 Laboratory⁵ _____ Recitation _____ Discussion _____ Indep. Study
 _____ Clinical _____ Colloquium _____ Practicum _____ Research _____ Residency
 _____ Seminar _____ Studio _____ Other – Please explain: _____

Proposed: 1 Lecture 3 Laboratory _____ Recitation _____ Discussion _____ Indep. Study
 _____ Clinical _____ Colloquium _____ Practicum _____ Research _____ Residency
 _____ Seminar _____ Studio _____ Other – Please explain: _____

- f. Current Grading System: Letter (A, B, C, etc.) Pass/Fail
 Proposed Grading System: Letter (A, B, C, etc.) Pass/Fail

- g. Current number of credit hours: 2 Proposed number of credit hours: 2

¹ See comment description regarding minor course change. Minor changes are sent directly from dean's office to Senate Council Chair. If Chair deems the change as "not minor," the form will be sent to appropriate academic Council for normal processing and contact person is informed.
² Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.
³ Signature of the chair of the cross-listing department is required on the Signature Routing Log.
⁴ Removing a cross-listing does not drop the other course – it merely unlinks the two courses.
⁵ Generally, undergrad courses are developed such that one semester hr of credit represents 1 hr of classroom meeting per wk for a semester, exclusive of any lab meeting. Lab meeting generally represents at least two hrs per wk for a semester for 1 credit hour. (See SR 5.2.1.)

COURSE CHANGE FORM

h. Currently, is this course repeatable for additional credit? YES NO

Proposed to be repeatable for additional credit? YES NO

If YES: Maximum number of credit hours: _____

If YES: Will this course allow multiple registrations during the same semester? YES NO

i. Current Course Description for Bulletin:

Basic CAD drawing skills including drawing tools, basic dimensioning, coordinate systems, and crosshatching; concepts and approaches for estimation of spatial distribution of rock and mineral properties from sample data. The course emphasizes hands-on experience with mine design software for reserve estimation.

Proposed Course Description for Bulletin:

Practical knowledge of computational tools used in mine design projects for both underground and surface mining. Basic elements in modern mine modeling through the manipulation of software packages commonly used by mining engineers. Projects will cover the areas of surveying, geology, economics and mining.

j. Current Prerequisites, if any: MNG 264

Proposed Prerequisites, if any: MNG 191, MNG 264

k. Current Distance Learning (DL) Status: N/A Already approved for DL* Please Add⁶ Please Drop

*If already approved for DL, the Distance Learning Form must also be submitted unless the department affirms (by checking this box) that the proposed changes do not affect DL delivery.

l. Current Supplementary Teaching Component, if any: Community-Based Experience Service Learning Both

Proposed Supplementary Teaching Component: Community-Based Experience Service Learning Both

3. Currently, is this course taught off campus? YES NO

Proposed to be taught off campus? YES NO

4. Are significant changes in content/teaching objectives of the course being proposed? YES NO

If YES, explain and offer brief rationale:

The majority of the material covered in the current MNG 291 course is directed to learning the AutoCADD engineering drawing software. Only about 30% of the course involves instruction on the use of mining software commonly used by practitioners. The lack of mine software instruction in the B.S. program has been noted by students and employers as a significant negative. Therefore, the proposal is to change MNG 291 to a course that spends 100% of the course time on the use of mine software for geologic modeling, reserve estimation and mine design. To prepare the students for the proposed MNG 291 course, the AutoCad material currently taught in MNG 291 will be removed and included in a new course, MNG 191 mining graphics course. Students will take MNG 191 in the spring of their freshman year and MNG 291 in the spring of their sophomore year.

5. Course Relationship to Program(s).

a. Are there other depts and/or pgms that could be affected by the proposed change? YES NO

If YES, identify the depts. and/or pgms: _____

b. Will modifying this course result in a new requirement⁷ for ANY program? YES NO

If YES⁷, list the program(s) here: _____

⁶ You must also submit the Distance Learning Form in order for the course to be considered for DL delivery.

COURSE CHANGE FORM

6. Information to be Placed on Syllabus.

- a. Check box if changed to 400G or 500. If changed to 400G- or 500-level course you must send in a syllabus and *you must include the differentiation* between undergraduate and graduate students by: (i) requiring additional assignments by the graduate students; and/or (ii) establishing different grading criteria in the course for graduate students. (See *SR 3.1.4.*)

⁷ In order to change a program, a program change form must also be submitted.

COURSE CHANGE FORM

Signature Routing Log

General Information:

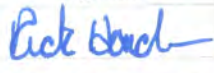
Course Prefix and Number: MNG 291

Proposal Contact Person Name: Rick Honaker Phone: 7-1108 Email: rhonaker@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
Mining Engineering	10/7/2011	Rick Honaker / 7-1108 / rhonaker@engr.uky.edu	
Engineering Faculty	11/28/11	Richard Sweigard 7-8827 / rsweigard@engr.uky.edu	
		/ /	
		/ /	
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External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision ⁸
Undergraduate Council	2/14/2012	Sharon Gill	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

⁸ Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

MNG 291
Elements of Mining Design

Instructor: R. Honaker
Office Address: 230 Mining & Minerals Resources
Email: rhonaker@engr.uky.edu
Office Phone: 257-1108

Office hours: TBA

Course Description:

Practical knowledge of computational tools used in mine design projects for both underground and surface mining. Basic elements in modern mine modeling through the manipulation of software packages commonly used by mining engineers. Projects will cover the areas of surveying, geology, economics and mining (2 cr.hrs., 1 lecture hr., 3 lab hrs.).

Prerequisites:

MNG 191, MNG 264

Student Learning Outcomes:

After completion of the course, the students will have:

1. Acquired the basic knowledge of mining software as a tool in underground and surface mine design and operation;
2. Ability to use modern technologies to solve problems and process optimization in mining engineering projects;
3. Ability to visualize, analyze and interpret data from areas as survey and geology;
4. Ability to acquire skills in computer graphics to effectively communicate their thoughts as mining engineers in the private or public sectors.

Required Materials:

1. Course notes provided by instructor.
2. SurvCADD Command Reference Manual.
3. SurvCADD Mining & Advanced Mining Modules Manual.

Description of Course Activities

1	Introduction to SurvCadd . Fundamentals ACAD-SurvCadd environment. Settings	SURVCADD	Fundamentals
2	SurvCadd Menus. Survey, Civil, Natural Re-grade, Geology, Surface Mining, Underground Mining		
3	Coordinate Files. Import - Export coordinates files. Point attributes. Point Utilities.		
4	Triangulate and Contours. Triangulation utilities, Contours utilities. Volumes by triangulation.		Geology
5	Fundamentals Grid Files. Type of grid files. Grid file utilities.		
6	Geology. Geology settings. Drill holes. Import-export drillholes. Geologic Columns.		
7	Strata grid files, Isopach Maps, quality maps, faults, variograms. Fence Diagram, Block diagram		Mining
8	Reserves. Reserves Classification. Surface Mine reserves. Underground mine reserves.		
9	Design tools, Surface mine, Underground mine.		
10	Vulcan Interface, Navigation and data viewing	VULCAN	
11	Vulcan tools, Object design Surface mining, Underground mining		
12	Triangulation modeling.		
13	SurvCadd-Vulcan Plotting		

Course Assignments

	<u>% of Grade</u>
Projects	
1. Topographic Map Generation	10
2. Geology Modeling	10
3. Mineral Resource Estimation	10
4. Mine Design	10
Exam No. 1	15
Exam No. 2	15
Final Exam	<u>30</u>
Total Number of Points	100

Summary Description of Course Assignments

Exam No. 1 will cover the fundamental materials associated with creating topographic and isopach maps using SurvCADD as well as other geological modeling techniques. Exam 2 will focus on reserve estimation and mine design. The final exam will be comprehensive and will include modeling techniques using the Vulcan software.

Each student will be given a set of mine data to be utilized throughout the course in their projects. Four projects will be assigned for which the students will be required to complete independently. Independent completion of the four projects will ensure that each student has the ability to meet the course outcomes which includes the understanding of the fundamentals of using mine design software for reserve estimations and mine design. The four projects will require a written report of the observations obtained from using the mining software to 1) construct topographic maps, 2) conduct geologic modeling of an ore deposit, 3) estimate the amount of reserves and 4) design elements of a surface and underground mine.

Course Grading

<u>Total Point Earned</u>	<u>Final Grade</u>
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
< 69	E

Mid-Term Grades

Mid-term grades will be posted on myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/Registrar/AcademicCalendar.htm>).

Course Policies

Course Assignments: No late assignments will be accepted with the exception of the occasions when submission is delayed due to an excused absence as defined by S.R. 5.2.4.2.

Attendance Policy: As per departmental policy, class attendance is required. 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. Your grade will be reduced by 5 percentage points for each week-equivalent of class that is missed because of unexcused absences. For example, since MNG 291 meets 2 times per week, the following grade reductions would be incurred:

<u>Number of unexcused absences</u>	<u>Grade Reduction</u>
1-2	0%
3-4	5%
5-6	10% Etc.

Excused absences are not counted in this total.

Excused Absences: Students need to notify the professor of absences prior to class when possible. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

Verification of Absences: Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

Academic Integrity: Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following web site: <http://www.uky.edu/ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of *Student Rights and Responsibilities* (available online <http://www.uky.edu/StudentAffairs/Code/part2.html>) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate

acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Section 6.3.1).

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations due to disability:

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.