# Graduation Composition and Communication Requirement (GCCR)
# GCCR PROPOSAL AND CHANGE UNDERGRADUATE PROGRAM FORM

**I. General Information:**

| | | | | | |
|---|---|---|---|---|---|
| College: | Engineering | Department (Full name): | Mining Engineering | | |
| Major Name (full name please): | Mining Engineering | Degree Title: | Bachelor of Science | | |
| Formal Option(s), if any: | na | Specialty Field w/in Formal Options, if any: | na | | |
| Requested Effective Date: | FALL 2014, ***IF*** RECEIVED BY SENATE COUNCIL BY MONDAY, APRIL 7. | | | | |
| Contact Person: | Joseph Sottile | Phone: | 257-4616 | Email: | joseph.sottile@uky.edu |

**II. Parameters of the Graduation Composition and Communication Requirement (GCCR):**

The new GCCR replaces the old Graduation Writing Requirement. It is fulfilled by a course or courses specified within a B.A./B.S. degree program. As outlined in draft Senate Rule 5.4.3.1, the GCCR stipulates that students must successfully complete this requirement after achieving sophomore status and prior to graduation. To satisfy the GCCR, students must earn an average grade of C or better on the designated Composition and Communication (C&C) intensive assignments produced in any given course designated as fulfilling some or all of the GCCR. The requirements for GCCR courses include:

- at least 4500 words of English composition (approximately 15 pages total);
- a formal oral assignment *or* a visual assignment;
- an assignment demonstrating information literacy in the discipline;
- a draft/feedback/revision process on GCCR assignments.

The program requirements for the GCCR include:

- at least one specific Program Student Learning Outcome for C&C outcomes;
- a plan for assessing both the writing and oral *or* visual components of the GCCR;
- clear goals, rubrics, and revision plans for GCCR implementation.

Upon GCCR approval, each program will have a version of the following specification listed with its Program Description in the University Bulletin:

> *"**Graduation Composition and Communication Requirement.** Students must complete the Graduation Composition and Communication Requirement as designated for this program. Please consult a college advisor or program advisor for details. See also 'Graduation Composition and Communication Requirement' on p. XX of this Bulletin."*

**III. GCCR Information for this Program (by requirement):**

**A. *List the courses currently used to fulfill the old Graduation Writing Requirement:***

MNG 371 - Professional Development of Mining Engineers

**B. *GCCR Program Outcomes and brief description:***

1. Please specify the Major/Program Student Learning Outcomes (SLOs) pertaining to Composition & Communication and the GCCR requirement. These are *program* outcomes, not *course* outcomes. Please specify the program-level SLOs for C&C in your program:

Students shall demonstrate an ability to communicate effectively using written and oral methods of communication

2. Please provide a short GCCR description for your majors (limit 1000 characters): Please explain the GCCR requirement in language appropriate for undergraduate majors to understand the specific parameters and justification of your program's GCCR implementation plan:

Graduation Composition and Communication Requirement (GCCR) for mining engineering students: The GCCR requirement for mining engineering undergraduates is met by completion of MNG 371 - Professional Development of Mining Engineers, with a grade of C or higher. MNG 371 is a required course for the Bachelor of Science degree in Mining Engineering; the prerequisites are COM 199 and engineering standing. MNG 371 is used, in part, to meet our program learning outcome "Students shall demonstrate an ability to communicate effectively using written and oral methods of communication" as required by ABET, the

organization that accredits college and university programs in the disciplines of applied science, computing, engineering, and engineering technology. The course includes a 4500 word technical paper; letter to the editor, position paper, or commentary; a panel presentation; and a technical presentation including professional-quality visual aids, e.g., PowerPoint slides.

**C. *Delivery and Content:***

**1. Delivery specification:** for your major/program, how will the GCCR be delivered? Please put an X next to the appropriate option. *(Note: it is strongly recommended that GCCR courses be housed within the degree program.)*

- ☒ a. Single required course within program
- ☐ b. multiple required or optional courses within program
- ☐ c. course or courses outside program (i.e., in another program)
- ☐ d. combination of courses inside and outside program
- ☐ e. other (please specify): _

**2. Basic Course Information**: Please provide the following information for course(s) used to satisfy the GCCR, either in whole or in part:

**Course #1:** Dept. prefix, number, and course title: MNG 371 - Professional Development of Mining Engineers

- new or existing course? Existing (*new courses should be accompanied by a New Course Proposal*)
  - ☐ *if a new course, check here that a New Course Proposal has been submitted for review via eCATS*
- required or optional? Required
- shared or cross-listed course? na
- projected enrollment per semester: 30-40

**Course #2 (if applicable):** Dept. prefix, number, and course title: na

- new or existing course? na (*new courses should be accompanied by a New Course Proposal*)
  - ☐ *if a new course, check here that a New Course Proposal has been submitted for review via eCATS*
- required or optional? na
- shared or cross-listed course? na
- projected enrollment per semester: na

**Course #3 (if applicable):** Dept. prefix, number, and course title: na

- new or existing course? na (*new courses should be accompanied by a New Course Proposal*)
  - ☐ *if a new course, check here that a New Course Proposal has been submitted for review via eCATS*
- required or optional? na
- shared or cross-listed course? na
- projected enrollment per semester: na

**3. Shared courses:** If the GCCR course(s) is/are shared from *outside* the program, please specify the related department or program that will be delivering the course(s). Please provide the following:

- **Contact information of providing program:**

  na
- **Resources:** what are the resource implications for the proposed GCCR course(s), including any projected budget or staffing needs? If multiple units/programs will collaborate in offering the GCCR course(s), please specify the resource contribution of each participating program.

  na
- **Memorandum of Understanding/Letter of Agreement**: Attach formal documentation of agreement between the providing and receiving programs, specifying the delivery mechanisms and resources allocated for the specified GCCR course(s) in the respective programs (include with attachments).

  **Date of agreement:** na

**4. Syllabi: Please provide a sample syllabus for each course that will be designated to fulfill the GCCR.** Make sure the following things are clearly indicated on the syllabi for ease of review and approval (check off each):

- the GCCR assignments are highlighted in the syllabus and course calendar;
- the GCCR assignments meet the minimum workload requirements as specified by the Senate Rules for GCCR courses (see the draft Senate GCCR rule linked here);
- the elements are specified in the syllabus that fulfill the GCCR requirement for a clear draft/feedback/revision process;
- the grade level requirements for the GCCR are specified on the syllabus (i.e., an average of C or better is required on GCCR

assignments for credit);

- the course or sequence of courses are specified to be completed after the first year (i.e. to be completed after completing 30 credit hours) for GCCR credit;
- the course syllabus specifies "This course provides full/partial GCCR credit for the XXX major/program"
  - if the course provides partial GCCR credit, the fulfilled portion of the GCCR must be specified and the other components of the GCCR for the program must be specified: e.g. "This course provides partial credit for the written component of the GCCR for the XXX major/program in conjunction with Course 2"

**5. Instructional plan:** Summarize the instructional plan for teaching the C&C skills specified in the program SLOs and delivered in the course(s). Include the following information in **brief** statements (1000 characters or less). Information can be cut-and-pasted from the relevant sample syllabus with indications **where** on the syllabus it is found:

- overview of delivery model: summarize how the GCCR will be delivered for **all** program majors: explain how the delivery model is appropriate for the major/program and how it is offered at an appropriate level (e.g. required course(s), capstone course, skills practicum sequence of courses, etc.):

Most course work involves independent completion of a number of exercises and projects, described on syllabus. These have been designed to assist in the development of knowledge and skill sets for mining engineers. Although small in number, these projects require multiple stages of work. Interim project milestones are assessed as part of final course grade. The course format most closely resembles a laboratory or practicum, in which the mentor provides guidance and feedback from the instructor and the peer tutor as the student works on assignments. Most feedback will be given individually or by confidential written comments on drafts. Formal lectures are limited to the areas concerning ethics and professionalism. A significant portion of of class meetings is dedicated to improving technical writing and oral presentation skills. External speakers address various issues such as contemporary issues, literature searches, technical writing, and professionalism.

- assignments: overview or list of the assignments to be required for the GCCR (e.g. papers, reports, presentations, videos, etc.), with a summary of how these GCCR assignments appropriately meet the disciplinary and professional expectations of the major/program:

1. Interim milestones for major writing assignments
2. Letter to editor, position paper, or commentary
3. Ten-minute presentation or development of a web page on the content of the technical paper
4. Technical paper (4500 word minimum, with digital media incorporated)

Summary of meeting disciplinary and professional requirements of the major: MNG 371 - Professional Development of Mining Engineers was developed to meet the communication requirement as specified by ABET, our accreditation agency and, as the course title implies, it has also been designed specifically for the development of mining engineers. Consequently, each of the GCCR assignments deals with one, or more, of the learning outcomes listed below:

- An understanding of professional and ethical responsibility,
- An ability to communicate effectively,
- The broad education necessary to understand the impact of engineering solutions in a global and societal context, and
- A knowledge of contemporary issues.

- revision: description of the draft/feedback/revision plan for the GCCR assignments (e.g. peer review with instructor grading & feedback; essay drafting with mandatory revision; peer presentations; etc.):

Fulfillment of major writing assignment milestones (e.g., for technical paper, this would involve selection of topic, meeting with librarian or assistant, preliminary abstract, introduction, outline, meeting(s) with peer tutor, and list of references useful to your research, and full-paper draft(s)). For purposes of determining grade for this category of scoring, the student will earn full credit (100%) for "Strong Execution," 85% for "Attempt Mostly Successful," 70% for "Attempt Marginally Successful," and 50% for "Attempt that Fails." Intermediate marks between these four major categories are also possible (e.g., 92.5%, 77.5%, 60%, resulting in a total of seven possible marks in each category.) The scoring rubric for this category of grading, as well as the final course products, will be distributed well in advance of due dates. Students should note the grading specifics in the attached set of University Senate Guidelines.

- other information helpful for reviewing the proposal:

The prerequisites for MNG 371 is currently engineering standing and COM 199 (concurrently). The Department of Mining Engineering is preparing a curriculum change proposal that will include changing the prerequisites to CIS/WRD 110, CIS/WRD 111, and engineering standing.

***D. Assessment:***

| |
|---|
| In addition to providing the relevant program-level SLOs under III.B, please specify the assessment plan at the program level for the proposed course(s) and content. Provide the following: |
| • specify the assessment schedule (e.g., every 3 semesters; biennially): |
| Every offering (once per year) |
| • identify the internal assessment authority (e.g. curriculum committee, Undergraduate Studies Committee): |
| Mining Engineering faculty members |
| • if the GCCR course(s) is/are shared, specify the assessment relationship between the providing and receiving programs: explain how the assessment standards of the receiving program will be implemented for the provided course(s): |
| na |
| |

**Signature Routing Log**

**General Information:**

| | |
|---|---|
| GCCR Proposal Name<br>(course prefix & number, program major & degree): | MNG 371, Mining Engineering, Bachelor of Science |
| Contact Person Name: | Joe Sottile |
| Phone: | 257-4616 |
| Email: | joseph.sottile@uky.edu |

**Instructions:**

Identify the groups or individuals reviewing the proposal; record the date of review; provide a contact person for each entry. On the approval process, please note:

- Proposals approved by Programs and Colleges will proceed to the GCCR Advisory Committee for expedited review and approval, and then they will be sent directly to the Senate Council Office. Program Changes will then be posted on a web transmittal for final Senate approval in time for inclusion in the Fall 2014 Course Bulletin.
- New Course Proposals for the GCCR will still require review and approval by the Undergraduate Council. This review will run parallel to GCCR Program Change review.
- In cases where new GCCR courses will be under review for implementation after Fall 2014, related GCCR Program Changes can still be approved for Fall 2014 as noted "*pending approval of appropriate GCCR courses.*"

**Internal College Reviews and Course Sharing and Cross-listing Reviews:**

| Reviewing Group | Date Reviewed | Contact Person (name/phone/email) |
|---|---|---|
| Home Program<br>*review by Chair or DUS, etc.* | 02/14/2013 | Joe Sottile (DUS) / 257-4616 / joseph.sottile@uky.edu |
| Providing Program<br>*(if different from Home Program)* | na | / / |
| Cross-listing Program<br>*(if applicable)* | na | / / |
| College Dean | 3/24/14 | Kimberly Anderson, Assoc Dean / 7-1864 / kimberly.anderson@uky.edu |
| | | / / |

**Administrative Reviews:**

| Reviewing Group | Date Approved | Approval of Revision/ Pending Approval[1] |
|---|---|---|
| GCCR Advisory Committee | 3/26/2014 | |

Comments:

[1] *Use this space to indicate approval of revisions made subsequent to that group's review, if deemed necessary by the revising group; and/or any Program Change approvals with GCCR course approvals pending.*

**MNG 371 - Professional Development of Mining Engineers (3 cr.)**
**Spring 20XX**

**Catalog Description**: Development of professional skills important to the practice of mining engineering. Topics include written and oral communication skills, understanding ethical responsibility and appropriate ethical conduct, real-world problem formulation and solution skills, exercise of abilities important to lifelong learning, knowledge of contemporary issues important to mining engineering. Prereq: Engineering standing. Concurrent: COM 199.

**Important**: This course provides full GCCR credit for the mining engineering major. Please follow the following link for GCCR requirements: GCCR

**Time/Place**: 8:00-9:15 TH, 112 MMRB

**Text**: Engineer's Toolkit: A First Course in Engineering, Mitcham, C. and Duvall, R.S., Prentice Hall. Other materials as assigned, distributed, or placed on reserve.

**Instructor**: Dr. Braden Lusk, Associate Prof. of Mining Engr.; 257-1105, braden.lusk@uky.edu

**Office/ Hours**: 234D MMRB; By e-mail appointment.

**Course Goal**: To develop skills important to students in future professional engineering practice.

**Course Structure:** Most course work involves the independent completion of a number of exercises and projects, outlined below. These have been designed to assist in the development of knowledge and skill sets, as described in the course description. Although small in number, these projects require multiple stages of work; therefore, procrastination is adamantly warned against. Interim project milestones will be assessed as part of final course grade. The course format most closely resembles a laboratory or practicum, in which the mentor provides guidance and feedback from the instructor and the peer tutor as the student works on assignments. Most feedback will be given individually or by confidential written comments on drafts. Formal lectures are limited to the areas concerning ethics and professionalism, which will be interspersed throughout the semester, and to a minimum number of class meetings dedicated to improving your technical writing skills. External speakers will invited to assist the student in developing skills related to literature searches, technical writing, and professional oral presentation. Additional speakers will be invited to class to add perspective on selected contemporary issues facing the mining profession.

| **Course Learning Outcomes**<br><br>**Student shall be able to….** | **Program Learning Outcome(s)[1]** |
|---|---|
| 1. Conduct a literature search on a relevant mining engineering topic; write a technical paper that is suitable in content, format, grammar, and punctuation for submission to a professional journal, including properly citing the work of others; and prepare visuals that are adequate in quantity and quality for a 10-12-minute oral presentation, which is clear, technically sound, and free from major flaws and distractions. | (i), (g) |
| 2. Cite the content of major professional codes for ethical engineering practice and analyze issues of ethical conflict faced by practicing engineers. | (f) |
| 3. Cite the benefits and responsibilities of professional engineering practice. | (f) |
| 4. Articulate the potential ramifications of important contemporary issues that are likely to impact the mining industry (e.g., air quality, mountaintop mining, regulation, resource depletion, thin-seam technologies) by way of a letter to the editor. | (j), (h) |

**Assessment Tools** (used in TCEs at semester's end):

| **Course Learning Outcomes**<br><br>**Assessment: Student shall be able to….** | **Program Learning Outcomes(s)** | **Assessment Tool** |
|---|---|---|
| 1. Conduct a literature search on a relevant mining engineering topic; write a technical paper that is suitable in content, format, grammar, and punctuation for submission to a professional journal, including properly citing the work of others; and prepare visuals that are adequate in quantity and quality for a 10-12-minute oral presentation, which is clear, technically sound, and free from major flaws and distractions. | (i), (g) | Tech. Paper and Tech. pres. |
| 2. Cite the content of major professional codes for ethical engineering practice and analyze issues of ethical conflict faced by practicing engineers | (f) | Final Exam |
| 3. Articulate the potential ramifications of important contemporary issues that are likely to impact the mining industry (e.g., air quality, mountaintop mining, regulation, resource depletion, thin-seam technologies) by way of a letter to the editor. | (j), (h) | Project 1, Letter to the editor |

**Topics** (not necessarily in order covered):

1. Writing technical papers (approximately 4 lectures taught by the Associate Director, eStudio, College of Engineering, Ms. Emily Dotson.
2. Development and use of audio-visual aids, as used in technical presentations or lectures.
3. Time management during an oral presentation, gauging audience response, fielding questions.
4. Private practice session(s) for review/critique.
5. Public presentation of a technical paper to an audience of peers, faculty, and

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

invited guests. Audience feedback will be solicited and used in assigning the grade for this activity.

6. Ethical codes of conduct in the engineering profession and analysis of issues of ethical conduct.
7. Professional conduct in the workplace; professional licensure.
8. Proper use of the work of others (copyright, patent, citation).
9. Individual presentation as member of a panel of 3-4 others on a topic that extends beyond prior course knowledge and is the basis of the technical paper subject.
10. Important economical and political issues likely to impact the U.S. and/or world mining industry.

**Grading**:

| | |
|---|---|
| Interim milestones for major writing assignments [1, 2] | 16% |
| Letter to editor, position paper, or commentary [2] | 14% |
| Ten minute presentation or web site on technical paper topic [2] | 12% |
| Technical paper (4500 word minimum, with digital media incorporated [2] | 18% |
| Class assignments and in-class quizzes | 24% |
| Final Exam (comprehensive), May 8 @ 8:00 a.m. | 16% |
| | 100% |

[1] Fulfillment of major writing assignment milestones (e.g., for technical paper, this would involve selection of topic, meeting with librarian or assistant, preliminary abstract, introduction, outline, meeting(s) with peer tutor, and list of references useful to your research, and full-paper draft(s)). For purposes of determining grade for this category of scoring, the student will earn full credit (100%) for "Strong Execution," 85% for "Attempt Mostly Successful," 70% for "Attempt Marginally Successful," and 50% for "Attempt that Fails." Intermediate marks between these four major categories are also possible (e.g., 92.5%, 77.5%, 60%, resulting in a total of seven possible marks in each category.) The scoring rubric for this category of grading, as well as the final course products, will be distributed well in advance of due dates**.** Students should note the grading specifics in the attached set of University Senate Guidelines.

[2] A grade of C or higher in these assignments is required to meet the GCCR requirement.

**Grade Scale**: 90+, A; 80-90, B; 70-80, C; 60-70, D; <60, E. All assignments must be submitted on the date/time unless otherwise approved in advance. Late out-of-class work will be accepted, but with a reduction of 5% per calendar day for each delay in meeting an intermediate or final deadline for each assignment. All in-class assessments must be completed and turned in within the time allotted. Exceptions to this policy must be in writing and are limited to one time per semester per student.

**Classroom Etiquette**: A high degree of professionalism will be maintained in the classroom. Classroom engagement in discussion is encouraged, as is the asking of questions for clarification of lecture material.

**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, there is a 5% grade penalty for each week-equivalent of class that is missed due to unexcused absences. For example, since MNG 371 meets twice per week, the following grade reductions would be incurred:

| No. of Unexcused Absences | Grade Reduction |
|---|---|
| 0-2 | None |
| 3-4 | 5% |
| 5-6 | 10%, etc. |

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

**Example of Grade Calculation** for a student who missed fewer than 3 classes:

Interim Milestones: 50, 77.5, 60, 100, 50, 60, 75, 0, 60, 85, dropping lowest, average of 68.61%.
Letter to the editor: 82%
Panel Presentation (weighted by teamwork assessment): 92%
Technical paper: 80%
Quiz average (typically drop lowest score): 85%
Final exam: 71%

Final grade = $0.16(0.6861) + 0.14(0.82) + 0.12(0.92) + 0.18(0.80) + 0.24(0.85) + 0.16(0.71) = 79.7\% \Rightarrow$ B

## Plagiarism

Part II of *Student Rights and Responsibilities* (6.3.1; online at 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 a question of plagiarism involving their 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 acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work, whether it be published article, chapter of a book, a paper from a friend or some file, or whatever. 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 or information, the student must carefully acknowledge exactly what, where and how he/she has 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. Plagiarism also includes making simple changes while leaving the organization, content and phraseology intact. 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.

**January 21, 2014**
**TENTATIVE SCHEDULE FOR MNG 371**

In the absence of announced deviations due to dates for the assignments given below, assume these are correct. Readings SHOULD BE DONE PRIOR to the lecture and discussion. Additional readings may be required and handouts or locations of outside sources will be made available as needed.

| DAY | TOPIC/DELIVERABLE | INSTRUCTOR |
|---|---|---|
| 1/16 | Course introduction; go over syllabus | Lusk |
| 1/21 | Instruction/discussion on how to write a letter-to-the-editor; select article; clarify syllabus; topics for Projects #2 & #3 distributed | Lusk |
| 1/23 | Chapters 1-2, Mitcham & Duval; article selected for Project #1; SME format distributed (via e-mail; should print off for later use) | Lusk |
| 1/28 | Quiz #1 (Chapters 1 & 2); Project #2 distributed/discussed; **Article selected and submission of major points** (Project #1); begin discussing Project #3 | Lusk |
| 1/30 | Chapter 3, Quiz #2; technical writing fundamentals; paper topic selected (Project #2) | Lusk |
| 2/4 | Principles of oral communication and teamwork**; Draft 1 of Project #1 due on blackboard(sources in SME format);** teams assigned for Project #2; team chair selected | Lane |
| 2/6 | Chapter 4, Quiz #3; technical writing fundamentals; following SME format; topic for Project #2/3 refined | Lusk |
| 2/11 | Orientation to library resources; database searching; research strategy techniques; evaluating information – B108C WTY; Continue discussion about Project #3; **Final Draft of Project #1 due on blackboard** | Dotson |
| 2/13 | **Topic for Project #2 selected, refined, and references to be used in presentation submitted**<br>Oral presentation assigned. | Lusk |
| 2/18 | Principles of oral communication and teamwork; making feedback helpful; peer evaluation – lecture | Lusk |
| 2/20 | Slack/Catch up Day | Lusk |
| 2/25 | **Submit peer evaluation procedures and criteria;** | Lusk |
| 2/27 | **Introduction due (Project #2)** | Lusk |
| 3/4 | **Detailed outline due but not collected (Project #2)** | Lusk |
| 3/6 | Chapter 5, Quiz #4; Chapter 6, Quiz #5; Engineering ethics | Lusk |
| 3/11 | **References (Project #2) due but not graded** | Lusk |
| 3/11-3/25 | Technical writing, outlining & individual consultations | Dotson |
| 3/25-3/27 | Slack/Catch Up Day<br>Completed Draft 1 of Technical Paper Due 3/27 | Lusk & Communications staff |
| 4/1-4/3 | 4/1 Work session – Peer review in class. Consultation with eStudio is required this week.<br>Draft of oral presentation materials submitted. Peer review of presentation delivery.<br>No CLASS ON 4/3 – Encouraged to Attend National Conference | Dotson |

| | | |
|---|---|---|
| | on Undergraduate Research. | |
| 4/8-4/10 | Chapter 7, Quiz #6; Chapter 8, Quiz #7 | Lusk |
| 4/15 | Chapter 9, Quiz #8; Chapter 10, Quiz #9 | Lusk |
| 4/17 | Proper use of the work of others (copyright, patents, citations) | Phillips/Such |
| 4/22 | Chapter 11, Case Study – Engineering Ethics Quiz #11 | Lusk |
| 4/24 | **Final Technical Paper Due (complete)**; Quiz #10, Major codes of ethical conduct | Lusk |
| 4/29 | Final Panel Presentations | Lusk, eStudio |
| 5/1 | Final Panel Presentations | Lusk, eStudio |
| 5/8 | Final Exam, 8:00 am | Lusk |
| | | |