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COURSE DESCRIPTION

This course is designed to prepare you to respond to the challenges of communicating as a professional engineer with certain (and often very special although not always shared) technical expertise. However, because the classroom is not the workplace (neither academic, corporate, commercial, nor industrial), and because the workplace is itself constantly changing, the goal is not to teach you how to communicate generally. Rather, the goal of this course is to help you learn to learn how communication works in any new situation.

The kinds of communicative activities you undertake in your professional life will vary, from job interviews to presentations to progress reports to emails—possibly even posting on social media sites—and so on. You couldn’t possibly, in the course of any brief period, learn every communicative form that you will one day encounter. So, instead, we focus in this course on the framework of how communication happens—the things, in other words, that different communicative activities have in common.

For example, all communication takes the form of a genre. That genre is appropriate to both a context and purpose. And, emergent from that genre, context and purpose, there is an identity, a persona or agent who selects purpose. And, there is always an acknowledgment of the success of the performance (as well as the performer), most often by representatives of the community (sometime communities) for whom that performance is most relevant and salient. In this course, I will ask you to consider these “elements” of underlying form as you perform your communicative activities.

READINGS AND MEDIA

Articles, audio clips, and video clips available via Google Drive.

COURSE GOALS

Why take ENGRC 3500? You might think, Because of that pesky technical writing requirement. But why does the requirement exist? Here are some reasons:

1. Engineers frequently write and present reports for people who do not have the same level of engineering expertise—managers, clients, people in marketing, grant committees, venture capitalists, even the general public. It is very likely that you at some point will have to address both an expert and a non-expert audience in the same document or presentation.
2. You will no doubt be asked to collaborate with colleagues on a job; this course builds the skills necessary for this kind of work.

3. Engineers produce presentations that are much more than mere words on a slide. To wit, you need to be skilled at designing slides that are visually literate and transparently accessible. And of course you need to be adept at oral presentation.

4. Questions of ethics and management necessarily call upon skills of communication. ENGRC 3500 provides a forum for discussing and writing about these important issues.

Unfortunately, this course does not—indeed, cannot—provide you with a static set of skills. You’ll adapt what you learn here, because communication depends on context—the job, the industry, the organization, the corporation. Use ENGRC 3500 to build on what you already know and to set the groundwork for the future.

**COURSE ASSIGNMENTS**

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By way of realizing the course goal of learning to learn how, I will ask you, in collaboration with other team members, to engage in a major project. Simply stated, this project is to write a feature article suitable for publication in an existing science/engineering magazine (or, for that matter, merely a magazine that publishes material related to science and engineering).

Of course, simply stating the project belies the complexity of successfully completing it. For example, your team will need to develop a thorough understanding of what is involved in writing a feature article (the above elements of underlying form) for a magazine that you (your team) select. I can assure you that it will include a myriad of complex and interrelated tasks. Your team will need to develop a project plan for completing this article in an efficient and effective (tangible progress with publication as the aim) way. And, you (your team) will need to develop relationships with people who might be able to help you. Perhaps the most important people are those fellow team members, whose expertise, hard work, good will, and understanding you will surely come to need and rely on. Again, there is more that will be needed, and together we will discover it.

In addition to the article itself, you will be asked to do other (mostly related) work. See below for a description of each task.

**Article**

In teams (ranging from 3-5 members, depending on course enrollment), you will write a feature-length article for a science or engineering-related magazine or journal. The topic of this article, as well as the publication you gear it toward, will be decided on by your team. Over the course of the semester, you will do a series of assignments related to the article, including a query letter (which is a sort of proposal), a pitch presentation (another kind of proposal), a bibliography of background articles and an op-ed. More about those assignments later.

There are no length requirements for the article, except that it should be feature length; generally, articles of this sort range from 1500 words to 5000 words. But you will look for guidance on this matter (and most others) to the conventions of the magazines or journal you’re gearing your article toward.

We’ll have a library workshop early in our term, so you’ll know the best databases to use in order to find what you’re looking for.

Below are some websites that might help you think about current science and engineering-related research:

- [http://www.eurekalert.org](http://www.eurekalert.org) (Basic source for science press releases)
- [http://www.alphagalileo.org/](http://www.alphagalileo.org/) (A European counterpart to EurekAlert!)
- [http://www.newswise.org](http://www.newswise.org) (An independent alternative to EurekAlert!)
- [http://www.sciencedaily.com/](http://www.sciencedaily.com/) (Another independent alternative to EurekAlert!)
- [http://ksjtracker.mit.edu](http://ksjtracker.mit.edu) (An experienced science journalist reviews the day's news, and
also comments on science journalism)
"Science Times" section)

Bibliography

In this first assignment, I would like you to create a brief bibliography in which you list at least eight articles about your proposed topic. You'll cull these from various publications—perhaps some scholarly sources, some magazines, some newspapers. The idea is to get a sense of the discussion that has been going on about this topic before you have come along.

Beneath each citation (you can do this in APA, MLA, or any other citation method you prefer), write a paragraph summarizing it, so that I know without looking at the article what I can expect to find in it.

Magazine Analysis

For the magazine analysis, I'd like you to write a short (250 word) synopsis of the magazine your team is leaning toward. You can use any of the following questions to help you think about what your magazine is all about:

1) What are the publication's constraints in terms of audience, style, tone, and related factors?

2) How your project will fit into those constraints?

3) What audience does the article seem aimed for? Consider issues such as how much (what kind of) knowledge the audience seems to possess, as well as factors such as their age(s), genders, education level, occupations, income, and moral or political views.

4) Who else might turn to this source for information? For example, although the Journal of the American Medical Association (JAMA) addresses physicians, individuals with a specific illness may also read it while searching for information about treatments or breakthroughs concerning that illness.

5) To what extent does the article use technical language? Do you see any examples of jargon? Consider listing examples.

6) How long is the average sentence? Paragraph? Does this tell you anything about the audience?

7) How formal/informal is the style? Why?

8) Is there advertising in the magazine or journal? If so, what do the ads tell you about the reader?

9) Are formulas or equations present? How important are they to the article?
910 Does the writer use tables, graphs, or figures? Could the article make sense without them? What do they accomplish?

11) Does the article use any sidebars (adjoining "mini-articles" next to the main text or available as links on a web page) to explain key terms or provide more detail? If so, would such sidebars be effective for your article?

12) How long are the average articles in this journal? (Provide a rough estimate in number of words/pages and number of pages.)

13) What kinds of titles are customary? Can you make a guess why?

14) Are there any headings and subheadings? How are they written (as questions, statements, phrases)? How are they used? Why?

15) What other matters of style do the articles in this publication share?

16) Why/how will your article "fit" the audience you discovered in this journal? What is the purpose for your article given the magazine/journal (content, organization, sentence length, technical language, visuals, etc.).

**Pitch Presentation**

In this first presentation, I’d mostly like to see a coordinated (though informal) presentation of your article idea, pitched at what you might imagine to be an editorial board (in actual fact, this will be the rest of the class) for the magazine/journal you’re gearing your article toward. In essence, you’re both describing what your article will do and trying to convince the editors of its pertinence to their readership.

This talk shouldn’t last more than 4 or 5 minutes, plus time for some questions. It will occur via WebEx. I would like all team members to speak during this time.

**Query Letter**

The idea of writing the query letter early in this process is that it will help you get focused. I assume that your focus will shift, as you do more research, but it’s good to get to someplace fairly quickly.

A query letter does a few simple things. Most importantly, in a query letter you are inquiring into whether or not a magazine or journal (or, in other cases, a book publisher) might be interested in considering an article for publication. You do this by giving them a taste of the article. Many queries actually excerpt a small bit—maybe a paragraph—from the article itself. In any case, you need to describe the substance of your article—even if it is still just an idea.

You also use a query letter to introduce yourself and your qualifications as the author(s) of the piece. But probably the most important thing to accomplish in a query letter is to articulate why
your article idea is a good fit for their publication. Having a good article idea is fine and good, but it won’t necessarily get you published; you need to have a good idea that fits the audience of a particular publication. You accomplish this mostly by describing your article in a way that is familiar to the editor of the magazine. The old adage of “show, don’t tell” applies here; you don’t want to say things like, “Because your readers are interested in alternative fuels…” Instead, you just describe an article that sounds like the kind of thing they would publish, using specific examples. You could also point out similar articles they’ve published or, even, gaps in their coverage of topic X (being careful not to sound critical). Professional communication is tricky.

Query letters, like most professional correspondence, should be single spaced; its tone and convention-use should also be professional (that is, not overly informal). In many cases now, a query will happen by email, but I’d like you to treat this assignment as if it is going be sent by the USPS.

**Discussion Board and Team Posts**

This discussion boards are an on-going assignment over the course of the term; you will write (individually) at least seven (of nine possible) responses to prompts/questions/readings. Each entry should be no less than 250 words. They are informal exercises to get you thinking in concrete terms about upcoming discussions and assignments. There are also seven team posts; these are vital to helping the class move forward (and for helping other teams move forward with their projects).

**Op Ed**

Op-eds, traditionally located on the page opposite the editorial page (thus the name “op-ed”), are frequently written by authors not affiliated with the publication directly (though it’s not unheard of for them to be written by staff writers). The idea many times is to give some balance to the perspective of the publication.

Op-eds offer an informed perspective on a given topic. They are opinion pieces, but that is not to say their arguments are not supported with convincing evidence. I expect that you will need to do some research about your topic.

For this assignment, I’d like you to take a look at some sample op-eds about science and engineering in order to familiarize yourself with the form. And then I’d like you to write an op-ed of your own. I would like you to include either a link or the full text of the one you are most closely using as a model.

Please look around for some op-eds related to the topic you'd like to write on; the op-eds below are to give you a general sense—it is obviously not an exhaustive list and probably won't include op-eds on the topic you're interested in.

**A few sample op-eds**

http://www.washingtonpost.com/wp-dyn/content/article/2006/11/24/AR2006112400789.html
**Presentation**

During your final presentation, I would like you to accomplish two things. First I’d like you to articulate your article to the class. What is it about? What publication is it geared toward? What sorts of things do you examine in the piece? What sorts of evidence do you use? Give us the long and short of it.

Next, I would like you to give us a sense of its creation. Were there any surprises? What hurdles have you overcome?

Finally, what would you do differently if you were to do it all over? Would you change topics? Write for a different magazine? Tweak some part of the process or another.

The talks should be in the eight to ten minute range (plus another few minutes for Q&A). I would like you to use some audio/visual support for this presentation; this might be a powerpoint slide show; it might be clips of some sort.

**Team Assessment**

I take seriously the notion that this is a course about communication, including that which goes on at the group level. To this end, twice during the semester, I will ask that you consider your team’s progress in the class and assess the contributions of the other members in your team—as well as your own. I do this in part to better understand the inner-workings of each team so that I can help them when and where they need it. I also do it to alleviate the concern of some students (not altogether unfounded) that team work is on occasion abused as a good excuse for someone to do less than his or her share of the work.

Note that “Class and Team Citizenship” accounts for 10% of the course grade. I use these assessments as one of several sources as I figure this part of your final grade. It is important that you as an individual team member fully understand the nature of your contributions, and that the other members of your team value those contributions. All of this being true, remember, not all team members’ contributions will or even should be identical, nor will those contributions always and in all ways be equal.

**Final Exam**

Please write a defense of the value of communication in the context of engineering, touching on written, oral and group communication. Demonstrate your arguments with examples from your experience in your group this semester, as well as from readings we've done as a class. Also feel free to pull from readings you've done outside of this class, or from other experiences you've had in engineering contexts. 800-1000 words
Schedule
January 3-21, 2017

Team Post = one post from entire team
Discussion Board = everyone writes an individual post

Tuesday, January 3

• WebEx Meeting: discuss course goals and syllabus (1-2pm EST)
• discuss syllabus;
• discuss ways of communicating (WebEx, email, Google Docs, etc.)
• Break Out Sessions: discussion (in groups) about article possibilities

Wednesday, January 4

• teams: work on picking a target magazine
• Team Post (1): present ideas to class (150 words per team) (by 1pm EST)
  (You’ll post these on the Google Drive under Submissions/Team Posts; or just click here: https://drive.google.com/drive/folders/0ByDYwcfsS5SPcQVpWQmNBcOVVY0k)
• Within your team, choose two sample articles from past classes and everyone read them.
• Discussion Board (1): Respond to two past articles (by midnight EST)
  (You’ll post these on the Google Drive under Submissions/Discussion Board; or just click here: https://drive.google.com/drive/folders/0ByDYwcfsS5SPcSHRic0xUQmE2NGs)

Thursday, January 5

• Team Post (2): each group comments on other teams’ article ideas (by 2pm EST)
• Explore Library resources online

  Due: bibliography (via Google Drive by 5pm EST)

Friday, January 6

• Read James Suroweiki’s “Committees, Juries, and Teams: the Columbia Disaster and How Small Groups can be Made to Work"
• Discussion Board (2): Response to Suroweiki
• WebEx Meeting: Trouble-shoot article lift-off; discuss Suroweiki (1pm EST)
• Team Post (3): post a sample article from your team’s target publication (doesn’t have to be on your topic) (by 5pm EST)

  Due: magazine analysis (via Google Drive by 5pm EST)
Saturday, January 7

- Read sample articles from each team’s target publication (posted yesterday)
- Read other teams’ Magazine Analyses
- **Team Post (4):** Is each team’s article idea a good fit for their magazine? (250 words total) (by 5pm)
- **Discussion Board (3):** What is working in terms of group communication? OR, How might I/we run our small organization better?

Sunday, January 8

- Have an op-ed topic in mind before class meeting.
- Read three sample op-eds and “How to Write an Op-Ed”
- **Discussion Board (4):** Response to one or more sample op-eds, perhaps in relation to your op-ed idea.
- WebEx class: Discuss op-ed ideas, troubleshoot (1-2pm EST)

Monday, January 9

- TED talk: Melissa Marshall, “Talk Nerdy to Me”
- **Discussion Board (5):** Response to Marhsall’s TED talk
  *Due: query letters (via Google Drive by 5pm EST)*

Tuesday, January 10

*WebEx Class: pitch presentations (1pm EST)*
*Due: op-ed (via Google Drive by 5pm EST)*

Wednesday, January 11

- **Team Post (5):** Team A responds to Team B (and vice versa); Team C responds to Team D (and vice versa)
- Work on Article
- Read Malcom Gladwell’s “Blowup”

Thursday, January 12

- **Team Post (6):** Respond to four Op-Eds (schedule is posted on Team Post 6 page on Google Drive)
- Work on Article
- **Discussion Board (6):** Response to Gladwell’s “Blowup” (midnight EST)

Friday, January 13

- Work on Article
• **Discussion Board (7):** What are some of the problems that we're encountering in the project? (And how might we mitigate those problems?) (midnight EST)
  • WebEx class: Discuss Gladwell, Marshall, troubleshoot articles (10am EST)

**Saturday, January 14**

• Work on Article

**Sunday, January 15**

• Listen to Patsy Rodenburg interview
• Read other three article drafts
• Work on Presentations
• **Discussion Board (8):** Response to Rodenburg interview (midnight EST)
• **Due: article draft (via Google Drive by midnight EST)**

**Monday, January 16**

• **Discussion Board (9):** What are my strengths as a communicator/team member? What are some of my weaknesses? (midnight EST)
• **Team Post (7):** Respond to other teams’ article drafts (schedule will be posted) (5pm EST)

**Tuesday, January 17**

• WebEx Class: Article Workshop (10am EST)
• Work on Article and Presentation Revisions

**Wednesday, January 18**

• Draft Final Presentations via WebEx (1pm EST)
• Work on Article and Presentation Revisions

**Thursday, January 19**

• Work on Article and Presentation Revisions

**Friday, January 20**

• Final Presentations via WebEx (10am EST)
• Work on Article Revision

**Saturday, January 21**
Due: Team Assessments (by email, midnight EST)
Due: Final Exam (via Google Drive, midnight EST)
Due: Final Article (via Google Drive, midnight EST)
Due: Op-Ed Revision (via Google Drive, midnight EST)