JUST IN TIME DELIVERY
PUBLIC SPEAKING
MANUAL

This manual is targeted at undergraduate engineers and is designed to help them improve their oral communication skills. The manual covers the following:

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“A speech is not an essay standing on its hind legs!” James A. Winans

A Good Speech is Successfully Delivered, Both Verbally and Non-Verbally

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Do not memorize; familiarize
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Talk through the whole speech every time you rehearse
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I. Why public speaking matters?

Because employers want college graduates to have strong oral skills, a title of recent research from Iowa State published in *Business and Professional Communication Quarterly*. The study asked employers in engineering, business and health sciences to list the types of communication skills newly hired employees and interns need for success in the workplace. The 52 employers listed 165 different types of communication skills, from which oral communication ranked as the highest in need. Oral communication skills include interpersonal communication, presenting and listening skills, as well as team or group work. The study showcases how prevalent verbal communication is in the workplace: we need to speak to one another, present our projects to others, work in teams, respond to customer questions and demands, and listen. Developing strong verbal skills takes practice. Working on your public speaking for your projects presents an opportunity to practice and become more self-aware of your own strengths and inconsistencies in your oral communication.

Importantly, this is not the only study that shows employers’ need for competent verbal communicators—Google “what employers want” and you will find a host of studies in support of this point.


Or, see these references:


II. The four principles of public speaking
In public speaking, these four principles apply: unity, support, concision, and usage.

(1) Unity

*Parts of a speech joined together to make a whole.*

Unity is an important principle in speaking. When audiences are asked about the qualities of poor speakers, they often say, "He was too hard to follow," "I wasn’t sure how anything she said related to anything else," or, "He jumped around so much that I had no idea what he was saying." These problems are all emblematic of a lack of unity in the speaker's message. In many ways, it is easier to identify problems with unity in a speech than in a written message. Because listeners do not have a text with which to follow a speaker, they are forced to rely upon the speaker's organizational structure to guide their comprehension. When that organization is not in place, listeners may get "lost" or confused by the message. A speech lacks unity when any of the following are weak or missing entirely: a clearly stated problem, followed by a preview of the design decisions and solution; transitions between main points; repetition of main ideas or internal summaries (e.g., "Now that I have talked about the problems, I'll go on to explain my solution"); a summary of the project in the conclusion. A speech that uses these organizational structures successfully will be a unified speech. Sometimes, however, a speech will contain these basic elements but still lack unity because these basic elements are not executed properly (the preview does not list all main points, or it remains unclear to the listener how the main points are connected to one another).

(2) Support

*Evidence that verifies a thesis.*

Strong presentations have clear objectives that are supported by evidence and explanation. Your project is the foundation for your presentation, thus, you should identify key points of the project to share with your audience and decide what you can leave out. Public speaking takes up time, sometimes it just slips by us, especially if we do not prepare, and you do not have a lot of time to present your project.

For your presentation, you will need to begin with a concise and well-organized format. In essence, you are making an argument about a problem you identified and a solution you designed to address it. You also need to keep your audience’s attention, thus, being concise and organized will keep you from rambling and losing audience interest.

(3) Concision

*Minimizing words for more effective communication.*

Speakers should strive to be concise. Using oral style rather than written style is one way to
accomplish this task. Oral style is less formal, with shorter and fewer complex sentences than written style. When striving for an extemporaneous or conversational style, speakers often find themselves using too many words to explain a concept, elaborating unnecessarily on points they have already said, or taking five or six sentences to say something that should take only two. It can be frustrating to listen to a speaker who is unable to be concise. As you prepare your presentation, take note of where you can shorten unnecessary explanations or elaborations to create a clearer, more focused message.

(4) Usage

*What speakers need to do to meet the needs of their audience.*

Given the different constraints for oral style, “usage” takes on a slightly different meaning for speaking than it does for writing your report. Spelling, for example, is not of great concern when evaluating speeches (save for visual aids), and some ways of speaking that would be deemed “ungrammatical” on paper are acceptable in speaking (e.g., ending sentences with prepositions is usually acceptable in speaking but not in writing). Your audience for your presentation differs from your audience for your report, which normally will have one reader who can review the material on their own time, moving back and forth across the text. In public speaking, however, your audience cannot go back or ask you to rewind for clarity, so in preparing your presentation you need to address your audience (a group of classmates and instructors, fellow engineers, funders, decision makers-more on this in another section).

When preparing your presentation for usage, focus on adapting the speech to the particular audience: be aware of the difference between jargon, highly technical language without definition or explanation, and proper technical terminology. Be clear with your terminology. Avoid “talking down” to the audience and use of slang or too informal language (“you guys”). Although you are speaking conversationally (we hope), follow common rules of spoken grammar.

In sum, being able to make a concise and cogent argument about your project helps you to understand your project better, relate your materials to decisions makers, and keeps you focused. When organizing your presentation, ask yourself the following questions:

- What is my problem statement?
- What are my key design decisions?
- How can I best show these decisions visually?
- How can I justify my project by showing how it solves the problem?
- Who is my audience and how best to explain my project to them?
- What is my conclusion? How well did my solution perform? What are possible future directions?
III. Organizing your presentation

Since your presentation requires you to use visual aids, some of you will be tempted to rely on your power point slides to trigger your memory, an approach we highly discourage. We caution you against just “winging it,” even with visual aids, as doing so greatly increases your chance of blanking out, forgetting sections of your presentation, and stumbling in your delivery. While you may not be graded on the notes you use to present your project to the class, we encourage you to consider the various methods speakers use to organize their presentations. The following pages describe several approaches to organizing your presentations.

Outlining Your Speech

_A plan for or summary of a speech._

Why is it important to use an outline? We offer three reasons. First, your outline is the closest you’ll ever come to a text of your speech. Because a good speech is one that is delivered extemporaneously, you will want to avoid the temptation to read your speech. When you write out content word-for-word, you are naturally tempted to read word-for-word. By using a detailed outline instead, you can still have the comfort of having the information with you, but you will be less tempted to read and thus less likely to risk damaging the overall impact of your delivery. Second, because outlines employ common conventions and symbols (the “A”s and “B”s, “1”s and “2”s you learned about in high school), outlines help you organize your thoughts coherently and clearly, helping you adhere to your argument. Finally, outlines transfer nicely, in whole or in parts, to your keyword outline for rehearsal.

The process of outlining by describing three distinct phases:

1. **The preliminary outline.**
   
   The preliminary outline may not look much like a conventional outline at all, but instead can be a “list” or brief outline of main points you expect to cover in your presentation. In the process of working on a preliminary outline you can identify the key design decisions you will want to share and those that do not need to be mentioned. You can also map out your conclusion strategy.

2. **The full sentence outline.**
   
   Typically, this outline is much more detailed and specific than the preliminary outline. It marks the closest your speech will ever come to being written down. It represents all that you plan to say and how you plan to say it. It also provides solid footing for practicing your delivery. We encourage you to write out your presentation fully in outline format so you can avoid reading...
since outlines visually and literally have spaces in them, for jotting down notes and cues, to provide pauses between main points, and they allow you to work on your eye contact, a particularly important part of your delivery.

3. The speaking outline.
The speaking outline, also called keyword, is what you place on your notes for further rehearsal and presentation in class. To make your keyword outline, begin rehearsal using your full sentence outline. Then, as you become more comfortable with what you plan to say, reduce the full sentence outline to a briefer set of ideas and keywords on a sheet of paper. Like the preliminary outline, the speaking outline might not look like an outline at all, but should always be an organized set of notes from which you can speak easily during your presentation.

Keyword Outline verses Notecards
In general we advise you to avoid using notecards, because they can be distracting for you and your audience. When you rely on notecards your hand gestures, such an important part of public speaking, are limited. Moreover, your audience's attention is too often drawn to your hands as they move from card to card. Some of you may even have the shakes, which is even more distracting with a small stack of cards in your hands. On the other hand, you can place your keyword outline on the podium or desk and refer to it as you move through your presentation.

• Keyword Outlines should be one page only.
• They can be hand written or typed.
• Create yours from your Full Sentence Outline after our have practiced from it many times.
• Make your Keyword Outline work for you—use color codes, bolds, any cues you think will help you with your delivery.

Signposting
Signposting is just what it sounds like: you verbally inform your audience of where you are in the speech and where you are going. It helps your audience follow you as you speak. Signposts are transitions that connect phrases or sentences that move you and your listeners through the presentation in a logical fashion. Beginning speakers often forget to include simple transitions (such as “next I’ll discuss...” or, “My third point is that...”); as a result, their speeches often sound choppy and disorganized. If you get into the habit of planning out your transitions by putting them in your speech outlines, you will not forget to include them when you present your speech to the class.

Some examples for signposting:
- **TO SHOW ADDITION**: and, also, besides, further, furthermore, in addition, moreover, next, too, first, second.
- **TO GIVE EXAMPLES**: for example, for instance, to illustrate, in fact, specifically
- **TO COMPARE**: also, similarly, likewise
➢ **TO CONTRAST:** but, however, on the other hand, in contrast, nevertheless, still, even though, on the contrary, yet, although

➢ **TO SUMMARIZE OR CONCLUDE:** in other words, in short, in conclusion, to sum up, therefore

➢ **TO SHOW TIME:** after, as, before, next, during, later, finally, meanwhile, since, then, when, while, immediately

➢ **TO SHOW PLACE OR DIRECTION:** above, below, beyond, farther on, nearby, opposite, close, to the left

➢ **TO INDICATE LOGICAL RELATIONSHIP:** if, so, therefore, consequently, thus, as a result, for this reason, because, since

**Oral citations**

As in your reports, in your presentations you are expected to give credit where it is due, through citations. All disciplines in the academy, engineering included, consider research as ongoing conversations that promote knowledge, discourse, and discovery. Your presentation should reflect this understanding by orally citing research that you used to design your project. However, often doing this sounds easier than it is. When citing sources aloud in your speech, be especially wary of using direct quotations. In a paper, you signal when you are using someone else's words instead of your own by using quotation marks. However, quotation marks are not useful when speaking. If you directly quote someone in your speech, be especially careful to use vocal inflections, pauses, and the like to signal when you are speaking as yourself and when you are using someone else’s words. Often direct quotation can make a speech feel choppy and disorienting, especially if the speaker strings many quotations together. In most cases, you are better served by paraphrasing or summarizing a source (but citing it, of course). When introducing another's research, you do not need to give the full title of the paper or date—such should be included in your reports bibliography. Instead, provide the name of the researchers and some identifying piece of information about them and then paraphrase their work/findings. Here are a few examples:

- According to Claud Shannon of Bell Labs, one may quantify information transmission using entropy.
- In his seminal work on Information Theory, Claud Shannon proved that one may quantify information transmission using entropy.
- In his publication in the Bell Labs Technical Journal, Claud Shannon proved that one may quantify information transmission using entropy.
- In Turing's 1950 paper, he states that the intelligence of a machine may be tested using an 'imitation game.'
IV. Understanding audience

Communication studies inform us that not all audiences are created alike, and that differing venues, modes of communication, and historical contexts make for a diverse set of criteria concerning what constitutes an audience. Different types of audiences include movie audiences, lecture audiences, professional meetings and city councils, for instance. Most audiences choose to be presented with the information being communicated, as in your engineering class where your peers and instructors want to learn about your project. However, such interest is not always the case and thus it is incumbent upon you to consider who your audience is and what their knowledge base is as you prepare your presentations as a professional engineer. First off, even when speaking with other engineers, you need to avoid jargon, defined as language specific to a field that is generally not understood by those outside of that field. Jargon is off putting as it alienates those who cannot follow its meaning. Learn to speak in clear language and explain complex concepts and words to keep your audience’s focus.

Furthermore, in engineering class, it is most likely that your peers want to learn about your project and have the technical skills to follow you as you present it (but still avoid jargon!); however, in your professional role as an engineer, it is possible you will speak to different sets of audiences, even for the same project. For example, you may have identified a problem and have tinkered with a solution and now need to propose your project to your employer or team. As an audience with high level, technical understanding, this specialized audience may not need direct audience appeal. However, once the project is underway, you may find yourself in need to further funding and thus need to speak about your project to funders who may not fully grasp the elements of your project. You will need to make clear explanations and use analogies to help your audience better understand your project’s value to them. You will not be able to use jargon or overly technical language—instead you will need to speak plainly and have vivid examples that your potential funders can relate to. We call such approaches audience appeal or audience adaptation. Here are a few examples:

- Analogies for how something works: A diode is like a one-way valve in a water pipe
- Use direct appeal: "you," “we,” “our”
- Descriptive language and examples, imagine the problem affecting a community

A related scenario is one in which you need to convince public officials of your project's value and thus the public itself. Hence, you will want to understand the needs of those officials to help them generate ideas for gaining public support. Once again, examples that relate directly to your audience’s needs and experiences will be important. Additionally, in such a scenario, you might be interviewed by a reporter and will be quoted in the paper. Under these conditions you must know how to present your project in clearly understandable language.
Most likely, though, the first “new and different” audience you will have to prepare for upon graduation is the job interview. You may be asked to present your work to a group comprised of engineers and non-engineers, such as management. In this situation, it is most important that you avoid jargon, have clarity of thought, and solid delivery skills. Being able to convey that you are a good communicator will enhance your employment prospects.

V. Time for delivery!
“A speech is not an essay standing on its hind legs!”
James A. Winans

A Good Speech is Successfully Delivered, Both Verbally and Non-Verbally

Oral delivery, or speaking to an audience, is a key component of good public speaking. You have probably run across teachers who were talking too quickly, too softly, to themselves, or to the blackboard rather than to the class. You may have been moved by a preacher. You may have thought about the skilled delivery of the weather forecaster on your local news station—about her ability to maintain eye contact, to gesture to and move around a sequence of maps, and to explain in a conversational, coherent way what each map shows. You may have been put off by a politician who seemed to be all show and no substance. Although delivery cannot compensate for a lack of sound content, it can enhance the strength of your presentation.

For most of us there are significant differences between the way we use language in writing and the way we use language in speaking. Written language tends to be more formal, grammatically correct, and so on. In speaking, on the other hand, we are less formal and often violate the rules of grammar in ways that are quite natural to speech, such as using sentence fragments. It’s natural that in speech we repeat ourselves more often, because repetition is necessary in a medium where the listener cannot go back to “read” the previous paragraph.

If you begin to pay attention to public speakers, you’ll realize that you can almost always tell when someone is speaking from memory or from a manuscript. Highly skilled persons may do it well, but when most of us try to recite a speech from memory or try to read a script, the result sounds stilted and unnatural. Or, pay attention to the same news story as it is reported in a newspaper account and in a television news program. The television version will demonstrate an oral style, using more colloquial language and considerably more repetition. Compared to the print version, the television version will be expressed for the ear.

The point here is simple: in public speaking always cultivate your natural, conversational, oral style. Never write out your speech in manuscript form. As soon as you start writing, you slip into modes of language use that belong in essays but not in speeches.
Types of Delivery
There are four different types of oral delivery: reading from a manuscript, speaking from memory, impromptu speaking, and extemporaneous speaking. For our purposes we will mainly focus on extemporaneous speaking, but let’s first look at the pitfalls of the other types regarding your work.

Reading from a manuscript
Reading a text directly, word for word.

There are some occasions when speaking from a manuscript is appropriate. If it is necessary to be very precise about wording, for example, you may need to follow a script closely. Similarly, the more complicated and intricate an argument is, the more necessary it is to adhere to a manuscript. In addition, if style is very important, you may need to work closely from a manuscript in order to remember to incorporate stylistic devices such as metaphors or alliteration where appropriate. However, for an engineering project that is highly technical and of high-level understanding, reading from a manuscript or "an essay on hind legs," is boring! Do not do this and the best way to avoid doing this is to work with outlines as you prepare your presentation (see above).

Speaking from memory
Learning and speaking the speech word for word.

Novice speakers often think they need to memorize their speech. Now, sometimes such an approach is appropriate such as an acceptance of an award, which requires a very brief speech, as with the Academy Awards (okay, we know not all actors keep their speeches short), for instance. However, a five-minute presentation is too long to memorize and the pitfalls are evidenced by the numerous times speakers have blanked or frozen once they stand in front of an audience. Some will look to their notes to help them find where they are, but a memorized speech does not easily lend itself to location through notes because the mind and eyes have to adjust to looking at the notes, all of which creates long pauses and metal havoc. In essence, awkward!

Impromptu speaking
Speaking off the cuff, on the fly.

Impromptu speaking involves speaking without much notice. Maybe someone is class turns to you for an answer and you have to “think on your feet.” At such times brevity is a virtue. Two elements of effective impromptu speaking are: (1) keeping in mind your audience’s knowledge and expectations and (2) having at hand some systematic way of thinking and speaking about
the topic to add coherence to your remarks. However, five-minute presentations are not impromptu occasions. You are expected to prepare and practice your presentation. As with the other types of delivery, avoid “winging it” or impromptu speaking for your presentation.

Extemporaneous speaking

*Speaking conversationally.*
The gold standard of delivery is extemporaneous. Extemporaneous speaking is appropriate for most situations: a presentation, a lecture, and an oral report. When you deliver a speech extemporaneously, you prepare an outline of your speech—main points and subpoints—but not the exact words you will use to deliver them. You rehearse enough to be familiar with transitions and with the organization of your supporting materials, though you may not actually memorize statistics or testimonial evidence. You speak from a keyword outline while maintaining eye contact, gesturing and moving as appropriate, and establishing a conversational rapport with the audience. You should use this type of delivery when presenting your project for this course.

Vocal Elements of Delivery
Part of your success as a speaker will result from your attention to the vocal elements: volume, rate, vocal variation, and tone.

**Volume**
*Volume refers to how loudly you speak.*
You always want to speak loudly enough so the furthest audience members can hear you. Maintaining a high volume also helps to maintain the audience’s attention. You may also want to vary your volume to emphasize particular points; both an increase or decrease in volume may help to call the audience’s attention to the point you want to emphasize. However, do make sure you are not too loud! That too can be off putting.

**Rate**
*Rate refers to how quickly you speak.*
People tend to speak more quickly when they are nervous, but speaking too quickly may not give the audience enough time to absorb your points. On the other hand, people who tend to speak more slowly may have difficulty maintaining the audience’s attention. An appropriate rate falls somewhere in the large area between these two extremes, and it is a good idea to vary the rate—either by increasing or decreasing it—to emphasize points. Including short pauses between points will help you maintain a comfortable rate (and you can write on your keyword
Vocal variation

Vocal variation refers to how high or low you speak.
Since speaking in a monotone makes it more difficult to maintain the audience’s attention, be sure to use lots of inflection; that is, vary your pitch. Inflection may also help to emphasize certain points in your argument.

Tone

Tone refers to how you actually sound to your audience.
Do you seem to care about the project? Are you conveying enthusiasm about it? Conveying your professionalism? Or, do you seem overly excited about the problem, indicating a cognitive disconnect from the harms it creates? As you prepare your presentation, make sure to set the appropriate tone for your project: professional, enthusiastic, but not overly so. Inappropriate tone is off-putting and distracting.

Verbal fillers

When in conversation we naturally use verbal fillers, “uhs,” “ums,” “like,” “you know,” for example. Normally, such filler words are not that distracting because the conversation involves turn taking. Such is not the case with public speaking in which the speaker has the floor all to her or himself. Excessive filler words and intonations will distract your audience and thus need to be avoided for an effective presentation.

Non-Vocal Aspects of Delivery

Posture

Body position and form.
How you present yourself to your audience matters, especially in promoting your own ethos (credibility) as an engineer presenting your project. You want your audience to focus on the material and not on you the speaker and thus, non-verbal as well as verbal communication is of utmost importance. One distracting non-verbal is poor posture—stooped shoulders, head turned down, hands in pockets, swaying body, and shifting feet. Also, sometimes presenters lean on the front table or wall, which can be particularly distracting. Hence, as you prepare your presentation, practice standing up straight with shoulders back and down, head centered and hands free from your pockets. Also, plant your feet on the ground, and while practicing, if you catch yourself shifting or swaying consider using this as an asset and add a bit of spatial movement to your delivery. If that does not feel right, then re-plant your feet to the ground and
stay cognizant of where your body and feet are. With practice, you will be able to convey confidence in your project with the support of the confidence expressed in your posture.

**Eye contact**

Eye contact is also one of the most important non-vocal aspects of delivery. Through eye contact you establish a sense of communion with the audience, maintain its interest, and increase your credibility and believability. Plan on making eye contact with the audience during 70-80 percent of your presentation, referring to your notes only when necessary. Some speakers tend to err by favoring one portion of the room when making eye contact—whether this is the front, back, or one side. Be sure to make eye contact with the entire audience.

**Gestures**

Gestures are an excellent way of maintaining the audience’s interest, helping audience members “see” the structure of the speech, and emphasizing key points in your argument. Speakers may tend to stiffen in front of an audience; using gestures helps you to feel and appear more relaxed, and being animated helps to hold the audience’s attention. You may hold up your fingers to signal that you are moving to your first, second, or third point. You may signal that you are presenting two opposing views—one “on one hand” and one “on the other hand.” You may have to practice in order to appear natural; you may have to plan when to use gestures rather than hope they will appear spontaneously. Make sure to neither over-use or under-use them. The key with gestures is balance.

**Movement**

Depending on your physical surroundings, movement may effectively be incorporated into your speech. If it is not necessary to stand at a lectern, for example, you may want to consider moving from one side of the platform to another during transitions, or perhaps from back to front. With visual aids, you may need to move to a screen or overhead projector in order to explain them. You want to appear natural and to use movement in moderation. Lack of movement may not help to hold the audience’s attention, but too much movement may be distracting. As with gestures, the key is balance.

**Smile**

As cliché as it sounds, do not forget to smile. You want to come across as inviting and engaging to your audience. You want to show you care about the project and how they receive it. Smile, as opposed to putting on your sour face, will convey professionalism that is inviting and engaged.
A word about attire
We encourage you to dress comfortably, but professionally as doing so will help you feel more confident. Think about how you feel when wearing your favorite fancy outfit. You are more confident and more self-assured. That is what we are trying to channel with formal dress; by dressing up, we want you to feel confident about yourself and public speaking.

Second, formal dress helps your ethos. Public speaking is a performance, and as with all performances, how we present ourselves matters. Ethos, which is a Greek term for appeals made by the character of a speaker, matter in that they determine what your audience thinks about you. Dressing the part of an authoritative speaker helps you persuade your audience, who is likely to view someone in a collared shirt and tie or pantsuit as more credible than someone in pajama pants or jeans.

Third, the expectation of formal dress matches what you might experience in job interviews or as an employee. Part of what we focus on here are soft skills: skills designed to make you ready for participation in the workforce. Your future employers will likely require you to be able to dress for success, and will almost assuredly require this for business interviews. It all comes back to looking, and by extension, acting like a professional. Think of speech opportunities as a way to practice this.

Your instructor will determine the specifics for your class's dress code, but for now, keep in mind that dressing for success will get you that much closer to it!

Delivery Dos and Don'ts

Dos:
- Stand up straight
- Use appropriate volume
- Use appropriate rate
- Use vocal variation
- Use appropriate tone
- Make eye contact with all of audience
- Use natural pauses instead of verbal fillers
- Gesture
- Smile appropriately
- Dress for success
- Practice

Don’ts:
- Keep hands in pockets
- Lean on the table or wall
- Wear ball caps, shorts, etc...
• Read your notes/avoid looking at your audience
• Only look in one direction
• Turn your back on your audience to show visual aids
• Sway and shift feet
• Fidget
• Slump
• Use verbal fillers
• Mumble

VI. Effective Visual Aids

Your presentations require visual aids: While there is a set criteria for your visual aids’ content (equations, block diagrams, for instance) for your presentation, you still need to know what makes for effective visual aids.

First, your visual aid must not hurt you. A bad visual aid can damage your presentation. If your aid has too much text, or is a distracting mish-mash of images and text that distracts your audience, you are going to hurt your performance. Likewise, if your visual aid is poorly used, your public speaking performance will suffer.

Second, your visual aid must not rely heavily on text. You should have no more than two to three short sentences on each slide or chart, and your aids should rely on pictures or visual representations of data. Remember that you will be conveying information verbally as you speak. You do not want to repeat what you are talking about on the slide unless you can represent it visually.

Third, you should consider the use of pictures in your presentation. The goal of a visual aid is to provide visuals, not text. Therefore you should pick powerful visuals that work well with what you’re saying. The entire purpose of a visual aid is to provide something for your audience to look at. The visuals you choose should complement your choice of arguments.

Some advice for using visual aids:
• Remember good speaking skills. Students who over-rely on the visual aid (looking back at the screen while they present, for instance) tend to do worse than students who do not have a visual aid at all.
• The visual aid is a supplement; do not try to fit all your information on the screen. Pick powerful visuals and try to find interesting ways to present data to your audience.
• Refer to the aid in your presentation; treat it like an extension of what you are doing. For instance, if your aid has all your data on it, you may want to gesture back to the screen and point that out to your audience.
• Keep it simple. Avoid things like chaotic color schemes, walls of text and clashing images and text. Do not bombard your readers with visuals. Pick only what you need.
• Always add citations of sources to your presentation either on the current slide or at the end of your presentation.
• Always label the charts/graphs/figures (Figure 1: Block Diagram, Table 1: Requirements and Verifications, Image 1: Final Product, etc.)
• Your font size and choice should enable your audience to view the visual without confusion. Plain fonts such as Times New Roman at 16 – 24 pt. are the standard.
• Use appropriate colors—pinks and greens rarely match!

We have included examples of good and bad visual aids on this website: [LINK]

VII. Group Presentations

While the clinics are to assist you individually with your project presentations, you are also expected to use them as opportunities to prepare for your team presentations. There are several advantages to teaming up with others: by spreading out the workload, groups often gather more and better information; when you actively create and process information with others, you tend to understand it better; finally, group work can make any project go more efficiently and successfully since more people take responsibility. But, a successful group presentation does not simply divide the time into sections that each member works on individually. Such presentations tend to be stiff and not very engaging. Here are a few suggestions for creating successful group presentations:

➢ Consider making a few simple rules with your group.
  These might be rules like "Be on time to all meetings," "Come prepared to each meeting," and "Each member of the group will respect each other’s ideas." You might even set rules for how you communicate during meetings, like making sure each person gets a chance to speak, no interruptions, etc.
➢ Meet early on to set out your goals for the group.
  These goals do not have to be limited to getting the project finished by the due date or completing individual tasks on time or even what grade you hope to earn. Your group can also set goals regarding the kind of group atmosphere you would like to be in (creative, friendly, encouraging, interesting, debate-friendly, etc.), how work load will be shared, and what you hope to learn by being in the group.
➤ **Good group work takes time.**
Have a conversation with the members of your group about everyone’s schedules. Not only can you then identify available meeting times, you can also discuss how you will handle the busy schedules you all keep. It will be important that you work far enough in advance so that each member can participate and the group can avoid that last-minute panic to meet and finish the work.

➤ **Meet face-to-face as much as possible.**
By having regular meetings you learn each other’s strengths and weakness and speaking styles so you can better assign tasks and you soothe any awkwardness or shyness that results from working with strangers. Relying solely on Google Docs as a form of communication results in poor communication (and miscommunication!) and can make for frustrated group members, social loafers, overloaded members, and less successful projects.

➤ **Accept that conflict and disagreement sometimes happen.**
You will not always agree with each other. Encourage an open environment where you can discuss disagreements or tensions and be willing to share your needs in the group. If you feel you cannot resolve issues on your own, ask an objective outsider like your instructor to mediate the conversation. Do not let conflict fester, seek advice from your instructor if you are not sure how to handle a situation. Do your best to seek consensus, as well. Sometimes you have to compromise, even when you do not want to. Most importantly, respect each other. Each of you enters a group with your own values, experiences and ideas. Value and respect those differences.

➤ **Rehearse.**
Always rehearse as a team! Keep in mind that teamwork means coming together to discuss your work and practice together. Doing so will help you focus on transitions and decide what the non-speaking group members should do during the presentation. They should not be looking bored, leaning against a wall, checking their phone, crossing their arms while staring into space. Each member is expected to be attentive and engaged throughout the entire presentation. Practice will also ensure smooth transitions between speakers. Offer a brief summary of your section and then state the next speaker’s name and provide a brief summary of what they will talk about. Also, since you will be using visual aids, practice moving from slide to slide to avoid having the speaker say “next slide.” Such talk is distracting and disrupts the flow of information. When practicing you will need to decide where everyone will stand. Do all of you need to be in front? Can some stand off to the side/sit in the front and wait for their speaking turn?

**VIII. Practice**
A Good Speech is Well-Rehearsed Before Presentation in Class

Rehearsal marks the final phase of preparation for your speeches. As we have already noted, a speech is not an essay standing on its hind legs. In order to have strong extemporaneous delivery—delivery that is conversational and appears relatively spontaneous, you need to spend a good amount of your preparation time practicing your speech. In addition, the best way to deal with nervousness before a speech is to make sure that you are well-prepared and well-rehearsed.

Rehearsal Strategies
Use the following rehearsal strategies to help you prepare your speech for delivery:

Do not memorize; familiarize
Rather than memorizing what you plan to say word-or-word, focus instead on familiarizing yourself with the main ideas of your speech. Consider sitting down with a friend and simply telling that person what your project is about, without using notes. To get to this point, talk through your outline until you feel familiar with the order and detail of the concepts you discuss in the speech. Memorization can often fail. If you focus upon knowing the main ideas rather than on regurgitating particular words, you will be less likely to “forget your speech” or get off track when you are delivering it in class. Good organization will make it easier for you to become familiar with your speech’s content.

Rehearse aloud
Many students think that silent rehearsal (“talking through the speech in my head”) is an effective way to practice delivery; however, this method is not ideal. Because public speaking is an oral experience, you must prepare for that experience by rehearsing your speech aloud. It is often said that we remember very little of what we read, a bit more of what we write, but a large amount of what we speak. Rehearsing aloud will help you remember what you want to say. In addition, rehearsing aloud is necessary if you are to time your rehearsals accurately. Although it may be difficult to find quiet space to rehearse aloud, do it. Ask roommates to leave you alone, or find an empty classroom.

Time every rehearsal
Given that you will be held to time constraints in your presentation, it is vital for you to time yourself during rehearsal. Only by timing yourself will you know if your speech is too long, too short, or fits within the time constraints set by your instructor. In addition, time each rehearsal. Because each version of the speech will be slightly different, timing all versions will give you a general idea of whether your speech fits into the time limits.
Talk through the whole speech every time you rehearse

Instructors often notice a phenomenon called “the fizzle,” in which students start out speaking very well, but at the end their delivery fizzles out—they forget what they had planned to say, they shuffle through notes, they suddenly seem unprepared. “The fizzle” is typically the result of unbalanced rehearsal of the speech. Often a student will rehearse the speech until she or he gets stuck, and then go back and begin again, rather than work through the tough spot all the way to the end of the speech. As a result, the introduction and first part of the speech are well prepared, while the end of the speech gets little, if any, rehearsal. By forcing yourself to talk through the entire speech every time you rehearse it, you will distribute your rehearsal time more evenly across the whole speech. In addition, an added benefit of this method is that if you do stumble when giving the speech in class, you will be better able to pick up and go on, because you forced yourself to do just that in rehearsal.

Use your rehearsals to generate useful speaking notes

If as you rehearse you find you consistently have trouble with particular parts of the speech, or little or no trouble with others, use this information to help you prepare effective speaking notes. For example, if you consistently forget when you are supposed to show your visual aid, write in the outline, “show visual aid now.” Use your rehearsal time to help you “customize” your speaking notes to your needs.

Work on verbal fillers

Speaking extemporaneously means speaking conversationally, which though the most desirable of deliveries, can have its own issues, mainly verbal fillers, filler words or intonations. In normal conversation, verbal fillers are quite common and to a point acceptable; however, with public speaking, such fillers are distracting. Verbal fillers, “ums,” “uhhs,” “like,” “you know,” are actually natural pauses. With careful attention to your use of them in your presentation, you will be able to minimize these, though it is doubtful that you will eliminate all of them and that is fine. Your presentation needs to be extemporaneous, which means natural in how we speak. When practicing note where you use fillers in your outline and see which are good places to take a pause for more effective delivery. Write, “pause here” on your outline. Several times of practice should rinse your presentation of excessive verbal fillers.

Practice in front of “live” audience members

Recruit a few helpful, well-meaning friends to watch you rehearse your speech, at least a few times. Ask them to give you specific feedback on your performance. This is one reason we have clinics! Use them! Caveat: If your friends will not take you seriously, or will make you more nervous as you rehearse, then do not waste your time rehearsing with them. Find people (perhaps classmates) who are willing to give you useful feedback.
Do not practice in front of a mirror

Use of the mirror is a common public speaking strategy, and many speakers swear by it. While it may work for some, we do not recommend this strategy. When you look at yourself in a mirror, you are turning your attention inward, to yourself and to how you look while giving your speech. In contrast, for your project presentation, the audience is the focus of your messages. Your concentration should be outward, toward the audience and your message. If you want to know how you look or if you have any distracting delivery habits, practice in front of friends or classmates and they can tell you. Or, you might wish to record yourself and then play back your performance to check on your delivery.

Always leave yourself enough time to rehearse

It is easy to get carried away by the other tasks of speech preparation. But be sure to leave enough time to rehearse. A speech may have wonderful content and be well-organized and well-researched, but if delivery is poor, then the entire speech performance suffers. One rule is to leave yourself at least one to two full days to focus exclusively on the rehearsal of your speech. Plan to complete all other preparation activities so that you have that amount of rehearsal time to adequately prepare.

Know what works for you

Experiment with different rehearsal strategies to figure out what works for you. Some students like to practice ahead of time in the actual classroom where they will be giving their speech; it makes them feel comfortable with the space. For other students, rehearsing the speech in the classroom is too nerve-wracking because it raises the specter of grades and evaluations. Some students prefer to practice in front of several friends to simulate an audience, while others prefer the feedback of one trusted friend or classmate. Try out several strategies and use the ones that seem to work the best for you.

Delivering the Speech in Class

By the time your speaking day arrives, you already will have worked on the vocal and physical aspects of your delivery. Now is the time to prepare mentally. It helps to get enough sleep the night before and to avoid large amounts of caffeine or other stimulants, since these can contribute to feelings of anxiety and nervousness. Try to arrive at class early so you can relax. Most importantly, visualize success. Imagine yourself giving an effective speech; see yourself maintaining eye contact and emphasizing points through the use of voice and gestures; listen to yourself speak with variety and feeling.

Nerves are normal, but knowing this may not help you feel less nervous on your speaking day. Usually speakers feel more nervous than they look. Some even begin their presentations by
stating an excuse for why it might not be very good (I’m not good at public speaking, I was up all night working on whatever, I get super nervous when I present... etc). This tends to predispose the audience to expect a bad presentation. If you don't make such comments the audience will likely not notice whatever you're worried about. To help you feel less nervous, preparation is the key. The more attention you give to putting together a well-organized, well-argued speech, the more you rehearse the speech, the more you keep your mind on your speech rather than on feelings of nervousness, the less nervous you will feel. In short, you will be able to use feelings of anxiety to fuel your performance. Over time, as you experience success with your speeches, your confidence will increase.

When you have finished speaking, avoid the temptation to cut off the end of your speech quickly or rush back to your seat (and do not ever conclude your speech by stating, “That's it” or “It's over”). Try to end your speech with an air of confidence. Some instructors may ask you remain at the front of the room to receive peer feedback from your audience, or you may meet with a smaller group of classmates in a peer group setting after your speech.

Some professional speakers may deliver the same speech day after day, week after week, year after year, and still they manage to convey enthusiasm to the audience. Through careful preparation and rehearsal you can achieve the sense of rapport, communication, and spontaneity that characterizes the performances of talented and effective speakers. This process begins from the moment you choose problem and design your solution. To maintain the audience’s interest in your speech you must maintain and convey your enthusiasm for the topic. Prepare the speech at a pace that allows you to do this. Leave yourself plenty of time to read, explore, talk, think about your topic and make it your own.