

# A Guide to Designing a Poster

A poster must:

- meet physical requirements determined by the session organizers,
- present your IDEA about the topic and show why it is interesting and important

Designing a poster is a challenge because space is limited. It must be lean and clean, standing alone if you are not present, and gain attention as audiences come and go.

## 1. General Information about Poster Sessions

Poster sessions are held as part of professional conferences, trade shows, job fairs, and university courses or end-of-semester campus shows. Posters of a predetermined size are displayed in a large area, and the audience moves about as it chooses; presenters stand near their posters and explain them briefly or answer questions. Poster sessions enable people to seek information about new work with convenience and freedom in a short period of time, a kind of cafeteria of information. Today's software programs enable novices to prepare exciting, informative posters. Students as well as professionals can participate in poster sessions. The "Resources" link at the Cain Project web site can help you find specific answers to your questions--such as, "How do I print my poster?"-- or help you learn about the challenges in designing a poster.

The physical setting of a poster session sets the rules, especially the size and materials you use in your poster. If large 8'x4' plywood boards on frames will be used for poster display, you can make a much larger poster than if the hall will have lightweight easels that can hold 2'x3' cardboard posters. So pay attention to the rules for your poster session: if the rules say tape can be used to secure the poster to the frame, bring tape, not pushpins. However, sometimes circumstances may shift after the time a session is announced; it is good to bring a small kit along with other materials such as tacks, Velcro tabs, push-pins, and masking tape or display clay to adapt your poster to the situation.

A poster session's location makes travel or shipping part of the design requirements. If a presenter must travel on a plane, a container will be needed to protect the poster in transit. Poster tubes can be purchased for around \$2.00 to protect your poster during transport.

Presenting at a poster sessions differs from giving other kinds of presentations. The audience comes and goes, so the presenter must constantly adapt to the viewers who are present. Some will want an oral explanation; some will merely want to look for a few seconds. Prepare several versions of your remarks, from 30 seconds to 4 minutes.

Poster sessions are usually scheduled for particular hours, and presenters may be asked to be present at specific times to be near the displays. However, the display hall may be open at other times, too; it's a good idea to make sure a poster can communicate well without the presenter being there. It is crucial to know what materials are allowed, what physical dimensions the poster can be, what display methods will be available (tape, tacks, or Velcro), when the poster must be put up and taken down, and how transporting the poster to the conference or presentation site might affect success. Take along tape, scissors, extra tacks or pushpins, and a packet of Velcro tabs (available from a sewing, fabric, or crafts shop). Also check on the physical constraints involved in using the computer: both printers and software have size limits.



## 2. Analyzing Your Audiences

Characterizing your audience during initial poster planning enables you to better tailor its content and design elements to those you wish to reach. The audience for the CHEM 215/217 session, for example, will include your fellow students, your instructors, someone from the Cain Project, and other invited guests. They have different levels of knowledge and different interests.

- The instructors and guests will be more expert than you are in organic chemistry. Their questions will be more technical. They want to know you thoroughly understand the mechanisms you describe.
- Your fellow students will be interested, but their questions will probably be more basic.
- The Cain instructors may ask you design questions about your principal point, your design choices, and your process.

These different audience types will affect your content and design decisions:

- What critical concepts/terms/issues will need to be defined for each audience? ?
- What visual aids (tables, graphs, and so on) can be used to convey information to audience members with a wide range of research interests and experiences?
- What questions can you anticipate audience members having about the information conveyed in your poster?
- What questions do YOU want to answer for these people?
- What organic transformations are relevant to your purposes?
- What is especially interesting or perhaps unexpected about these transformations?
- What have you studied in lab or in class that would help the viewers gain a foundation for understanding the transformations you wish to present?
- What colors or designs are relevant to these compounds or processes?
- What applications or products are related to these transformations?
- What experiences or values would the audience connect to these products and processes?

Thinking about the questions above will help you showcase the "NEWS" in your presentation.

## 3. Showcasing the "NEWS" in your Topic

The poster design process moves quickly when you take time to make some early decisions:

- What's the NEWS? What did you find out that you want to share with others?
- How can the overall arrangement of the poster signal the news?
- How can all the elements reinforce the main idea?
- What will make the reader stop and look?

To select the content for your poster, you must cull the most essential information from the wealth of knowledge you've gained. It's psychologically hard, but you can't use EVERYTHING. You want to select the crucial support for "The News." You can rank the information into three categories:

- **MUST know** (to get the point)  
(This includes the three-step transformation or the alternatives--one two-step process plus a single-step process, OR three one-step processes, hazards, etc.)
- **Good to know** (equipment, size, volume, world production, and so on)

- **Nice to know** (perhaps historical or social context, cost, unexpected effects)

You should include the MUST, add some Good, and save “Nice” details for talking with your audience or for a handout you'll give them.

#### 4. Visualizing the “NEWS” in the Design Space

The point of design is to make “The News” accessible and easy to process by the audience, that strolling, fickle group of individuals whose eyes are darting back and forth across the room. Help them get the point of your poster with a commanding, large font title. Include an introductory summary. Use message headings and forecasting statements to introduce or sum up each section. Reduce jargon--people avoid things they can't understand.

Choosing an overall layout appropriate to the main point of your topic is the most important step.

Think of a quilt.

It's big and rectangular, and right away you notice a pattern. Similarly, a poster should have a suggestive arrangement of communication areas. Three of the basic news arrangements are horizontal areas, vertical areas, and centered images. Use your answers to the questions above to relate the NEWS to a spatial layout that leads the audience's eyes through your NEWS. Some of your choices are:

- left-to-right flow in vertical columns
- two fields in contrast
- left-to-right flow in horizontal rows
- a centered image with explanations

These are suggested in the following thumbnail shapes.



This is the most challenging part of design: matching the physical pattern of the layout with the intellectual pattern of your NEWS.

- What are you trying to show the audience?
- Is it a problem and a solution?
- Is it an image, for example, of a device or chemical reaction?
- Is it a contrast? (old vs. new, before and after)
- Is it a demonstration?
- A process in series? (the three-step transformation may be shown horizontally or vertically)

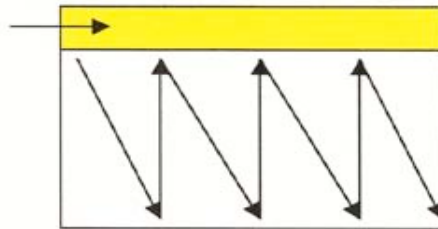
Group content in appropriate areas. For example, if you have three main points, you'll need three main areas plus the areas for the title, summary and the acknowledgments.

## 5. Creating Coherence -

Constructing a coherent poster means that it's easy for your audience to move from one topic discussed on your poster to another and to see the relationships between them. Create coherence by carefully planning the arrangement of information by relying on what we know about how readers read.

Since English-speaking readers read text from left to right and top to bottom, use this pattern to inform the arrangement of information in your poster. While the poster title is conventionally centered across the top of the poster, it can be placed to the left or to the right, but the area it occupies should command the rest of the space, perhaps by using a colored area behind it, as shown below.

Pattern eyes follow in reading a four-column poster:



Other useful strategies for guiding the reader's attention and showing the relative importance of each part of your poster's content include attending to **blank space, graphic hierarchies, indenting, visuals, and color.**

- **Blank space** defines relationships among objects. Marginal space around the sides and bottom creates an inclusive frame for the content of your poster. Don't run text completely to the edge of the poster. Leave some framing blank space. Separate columns with blank space, too (although these areas may be colored) so that the viewers' eyes can quickly pick out the pattern or arrangement of content.

Use blank space to help dictate the scale of the information you present and the visuals and text that communicate it. Are there three major areas? Four? Five? The design should help the viewer know right away where to begin.

Blank space tends to push a viewer's eye toward sections it surrounds, but it seems to push apart text or images if there is too much space. The meaning of "too much" depends on the overall size of the area.

- **Graphic Hierarchies** help viewers determine quickly which sections are of equal importance and which are of lesser or subordinate importance. Graphic hierarchies can consist of point sizes, color areas, line widths, and so on.

The rule of thumb is: BIG = IMPORTANT small = subordinate

- **Indenting** information helps to create white space around the information that emphasizes it and makes the information easy to scan with the eyes. You can indent information by generating bulleted or numbered lists or by creating more white space around paragraphs or other chunks of related visual or textual information.

- **Visual Aids.** Arguably the most critical design elements of any poster display include the use of visuals, font style/size, and color. The effective use of these features helps to make your poster both aesthetically pleasing and easy for the viewers' eyes to scan.

Posters are characterized by their use of both text and visuals. In posters, visual aids such as tables, graphs, photographs (and a variety of other discipline-specific visuals) can communicate a wealth of information. To use these visuals to communicate information accurately and effectively, it's best to remember these tips:

## VISUALS TIPS

- Enlarge visuals so that they're easily viewed. Remember that your audience typically views your poster from three to five feet away. Use these distances when judging how legible all aspects of your visuals will appear.
- Make sure that any labels you use with the visuals are large enough as well. Font sizes for these labels should be between 30-36 points.
- Number and title each visual that you use and be sure to reference them in the text.
- Think of photos, drawings, and so on should be independent elements that can be understood without reading a long explanation. The heading and labels on your visual will help it stand alone. Remember that your audience may only scan your poster, and the visuals may be the only features they examine.
- Eliminate any nonessential information (grid lines used in the background, extraneous information used in keys) and try to redesign your visuals to emphasize the most critical information you wish to communicate.
- Remember that photographs or other illustrations may be distorted and difficult to read if enlarged. Double-check the clarity of these visuals by printing them out before you print out your entire poster.

**Font Style/Size.** Improve legibility with the correct font size. To make the information you display legible for your audience, you must judge how close a reader must be to read the smallest crucial piece of data.

Here is a guide to font style and size if your viewers are likely to be three to five feet from your poster:

Serif fonts have "tails" (serif means tail in French) at the base and tips of letters and have line widths that thin out on curves. They are harder to read from a distance, especially if the contrast between the letter and the background is poor. Sans Serif fonts have consistent or uniform line widths or line widths that vary only a little. They have "no tails" (sans serif means "without a tail" in French).

Title (6 – 8 words)	<b>S</b> (Arial bold)	90 - 120 pt or more
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Headings (3 words)	<b>San</b> (Arial)	36 - 48 pt
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Text

**Serif** (Times )

30 - 36 pt.

**VERY IMPORTANT: Headings of the same level of importance should be in the same size and type of font.** All labels should be legible from at least 3 feet away.

**Color.** Color can “make or break” a poster’s legibility and aesthetic appeal. Incorporating color appropriately in a poster display means choosing and using color purposefully. Use color to show:

- which elements go together (are similar in value or are related in topic)
- which elements differ

For example, if you use a background color for two different areas of the poster, those areas should be related in some way. Back in the days when people displayed posters by using by gluing printed pages to construction paper, people sometimes used whatever colors came in the paper assortment. While variety is pleasing, poster viewers want MEANINGFUL variety.

In deciding how to use color in your poster display, here are some good rules of thumb:

- DO use color to show relationships among different areas of the poster. Do use color to create coherence and guide your audience through the sections of the poster. Do use color sparingly and purposefully—less is more
- DON’T use color arbitrarily; think about the ways color can be used to show relationships and incorporate this strategy into your poster. There must be sufficient contrast between the background and the text or between the background and the diagrams for viewers' eyes to read easily. Use light colors for your text (such as yellow) ONLY if the background is dark; use fonts with a consistent shaft width so that the letters won't seem to "thin out" or disappear when viewed from a distance. There must be sufficient contrast between the lettering and the background.

## **6. Option: Using a Template**

The Cain Project web site has poster templates (PowerPoint files) in vertical and horizontal layouts at its website (<http://www.owl.net.rice.edu/~cainproj/templates.html>) that you can download to your computer. These posters have Rice logos on them that you can keep or replace. These can be used to jump-start your design process.

## **7. Applying Poster Style to the Text of Your Poster**

Put your text on a diet. Shrink fat text to lean text, as in this example:

**Original**

**Revised**

The ideal anesthetic should quickly make the patient unconscious but allow a quick return to consciousness, have few side effects, and be safe to handle.

**Ideal anesthetics**

- Quick sedation
- Quick recovery
- Few side effects
- Safe to handle

**Details Matter!**

Check for consistent formatting, correct grammar, and correct spelling. Avoid abbreviations and acronyms a viewer may not know. Give a correct bibliography. Give credit to others (to establish your character and ethics), and include contact information.