ENGLISH 202C
Section 206, Summer 2004

Time: MTWRF, 1245-1400
Location: 103 Electrical Engineering West

Instructor: Stephen Schneider
Office: 236 South Burrowes Building, Cubicle N
Office Hours: 10am-12noon MTWRF
Email: sas437@psu.edu
Phone: 865-9805 (during office hours)

COURSE OBJECTIVES

ENGL 202C, Technical Writing, serves students who are preparing for careers in the sciences and applied sciences (particularly engineering). This advanced course in writing familiarizes students with the discourse practices prized in their disciplinary and institutional communities—and helps them to manage those practices effectively in their own written work. In this way the course teaches those writing strategies and tactics that scientists and engineers will need in order to write successfully on the job. Accordingly, students in the course can expect to:

- Discover and understand the discourse features that distinguish their disciplinary and institutional communities from others.
- Discover and specify the purpose(s) of their writing.
- Develop a range of writing processes appropriate to various writing tasks.
- Identify their readers and describe the characteristics of their readers in a way that forms a sound basis for deciding how to write to them.
- Invent the contents of their communications through research and reflection.
- Arrange material to raise and satisfy readers' expectations, using both conventional and rhetorical patterns of organization.
- Reveal the organization of their communications by using forecasting and transitional statements, headings, and effective page design.
- Observe appropriate generic conventions and formats for letters, résumés, memoranda, and a variety of informal and formal reports.
- Design and use tables, graphs, and technical illustrations.
- Compose effective sentences.
- Evaluate their documents to be sure that the documents fulfill their purpose and to ensure that they can be revised if necessary.
- Collaborate effectively with their peers in a community of writers who provide feedback on each other's work and occasionally write together.
- Write several specific kinds of documents that recur in technical and scientific communities.
- Employ computer technology effectively in the solution of communication problems.
- Communicate in an ethically responsible manner.
COURSE REQUIREMENTS

In order to receive a passing grade in English 202C, you will need to satisfactorily fulfill the following requirements:

- Complete 6 major assignments as listed in the “Assessment” section below. Each paper must be submitted in a presentable folder, along with rough drafts, signed peer review memos from draft workshops, and all other materials that represent the stages of the paper’s development.
- Ensure that papers conform to the guidelines provided on the assignment sheets, and are submitted on time. Failure to follow these guidelines will result in a penalty of one letter grade; late papers will be penalized one letter grade per day.
- Come prepared to every class: assigned readings and homework assignments are considered an integral part of attendance. You are responsible for all material appearing in the “Work Due” column in the “Course Calendar” for the corresponding date, whether or not I remind you of these assignments during the previous class session.
- Contribute constructively and appropriately to class discussions. Failure to show other class members the respect and courtesy they deserve will result in an F grade being awarded for class participation.

ASSESSMENT

Assessment for the course consists of six major assignments, each of which is designed to introduce you to major aspects of professional communication. The titles and weightings of these assignments are as follows:

<table>
<thead>
<tr>
<th>Assessment Component</th>
<th>Page Length</th>
<th>Weighting</th>
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<tbody>
<tr>
<td>Report Proposal</td>
<td>2-4 pages</td>
<td>...10%</td>
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<tr>
<td>Job Application Packet</td>
<td>6 pages</td>
<td>...15%</td>
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<tr>
<td>Technical Definition/Description</td>
<td>2-4 pages</td>
<td>...10%</td>
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<tr>
<td>Progress Report</td>
<td>3-5 pages</td>
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<tr>
<td>Instruction Set</td>
<td>3-5 pages</td>
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<tr>
<td>Final Report</td>
<td>5-8 pages</td>
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<tr>
<td>Participation</td>
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All assessment will be held to the professional standards that prevail in real technical environments; in short, don’t hand me anything that you would not hand to a manager or employer for whom you work. A professional standard means that you will need to pay attention to the following aspects in your work:

- Deadlines – you will be expected to meet assignment deadlines. Just as you would be unable to submit a grant proposal after the submission deadline, I will not accept late work without severe penalty. Late work will be penalized one letter grade per day (A- will become a B-, for example).
- Appearance – all work should be typed, using standard margins and spacing. Your work should be submitted in a presentable folder along with all accompanying material.
• Grammar, Spelling and Proofreading - Your work should show attention to spelling and grammar, and you will be responsible for closely editing your work prior to submission. Do not rely on computers to spell-check your work, as it is you who are receiving the grade, not Microsoft.

• Back-up Copies - always prepare two copies of each major assignment, one for you and one for me. Sometimes I will request a "clean" copy to use as a sample. But more importantly, backing up covers your back.

Your participation grade reflects both your contributions in class, and regular homework you will be asked to complete throughout the course. Failure to submit homework assignments will result in a loss of a third of a grade from your participation mark.

GRADING STANDARDS

Grades will be determined according to the following scale: A = 95 to 100; A- = 90 to 94.9; B+ = 87.9 to 89.9; B = 83.33 to 87.8; B- = 80 to 83.32; C+ = 75 to 79.9 C = 70 to 74.9; D = 60 to 69.9 and F = 59.9 and below. The Penn State grading scale does not allow the option of awarding grades of C-, D+ or D- grades.

When grading each of your assignments, I will ask one overriding question: "Does it work?" That is, would your communication have the intended effect on the reader you are addressing in the world outside the classroom. I will, of course, recognize the difference between a competent performance (a "C") and good and excellent performances ("B" and "A"). A competent performance is one that stands a reasonable chance of succeeding; an excellent performance is one that seems assured not only of success but also of winning praise.

The following is a brief description of the grading criteria for the course:

A- superior; the work is of near professional quality. The document meets or exceeds all the objectives of the assignment. The content is mature, thorough, and well-suited for the audience; the style is clear, accurate, and forceful; the information is well-organized and designed so that it is accessible and attractive; the mechanics and grammar are correct.

B- good; the document meets the objectives of the assignment, but it needs improvement in style, or it contains easily correctable errors in grammar, format, or content, or its content is superficial.

C- competent; the document needs significant improvement in concept, details, development, organization, grammar, or format. It may be formally correct but superficial in content.

D- marginally acceptable; the document meets some of the objectives but ignores others; the content is inadequately developed; or it contains numerous or major errors.
F- unacceptable; the document does not have enough information, does something other than the assignment required, or it contains major errors or excessive errors

DRAFT REVIEW SESSIONS

Draft review sessions are made available for you in class, to allow you time with peers to share ideas and collaborate on assignments. They are integral parts of the course, and it is mandatory that you participate. Should you fail to attend a draft review session, I will count it as two absences. Should you fail to bring a draft to class on a review day, I will count you absent for two days. Should you fail to complete draft review requirements, I will deduct a full letter grade from the assignment the review pertains to.

Draft Reviews are a three-step process:

1. Prepare a COMPLETE draft for the draft review session; you should bring two copies of your drafts to class on review days.
2. Read your partner’s draft, and make constructive notes on it. Be sure to identify the main arguments, and to provide honest and constructive commentary on the strengths and weaknesses of those arguments. You might also attend to such issues as formatting, spelling and grammar, but be sure to provide a detailed discussion of where you think the work could be improved. Failure to provide acceptable commentary will result in a deduction of one full letter grade from your final assignment. Be sure to sign and write your name on the drafts you work on.
3. Use the remaining time in the draft review session to actively and constructively discuss your partner’s work.

People who fail to take draft reviews seriously not only disadvantage themselves; they also disadvantage their draft partners. I take a dim view on behavior that jeopardizes another’s grade, and will not hesitate to apply full penalties to people who engage in such behavior.

ATTENDANCE

I consider attendance a mandatory part of this course. On any given day, I will be covering material in class that I expect to see in your assignments. It is therefore in your interest to turn up. You are allowed 3 absences according to University policy. After this I reserve the right to alter your participation grade. Remember that draft review days are considered two absences.

People who turn up more than five minutes late to class will also be considered absent for that day.

I expect people to come to class prepared. This means bringing your course materials, and participating in class activities and discussions. Failure to bring course materials to class, or obvious lack of preparation, will be considered an absence.
OFFICE HOURS AND CONFERENCES

I would encourage you to use my office hours to address issues pertaining to your writing and to the course. Additional interaction will allow you to work me out as an instructor, and will help me ascertain your needs as you go about completing assignments for the course.

ACADEMIC INTEGRITY

Penn State defines academic integrity as the pursuit of scholarly activity in an open, honest and responsible manner. All students should act with personal integrity, respect other students’ dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts (Faculty Senate Policy 49-20).

Dishonesty of any kind will not be tolerated in this course. Dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students who are found to be dishonest will receive academic sanctions and will be reported to the University’s Judicial Affairs office for possible further disciplinary sanction.

If you have further questions, please refer to the plagiarism guidelines provided, or ask me.

NOTA BENE

The Pennsylvania State University encourages qualified people with disabilities to participate in its programs and activities and is committed to the policy that all people should have equal access to programs, facilities, and admissions without regard to personal characteristics not related to ability, performance or qualifications as determined by University policy or by state or federal authorities. If you anticipate needing any type of accommodation in this course or have any questions about physical access, please tell me as soon as possible.
<p>| Date                  | Topic                                                                 | Due                                    |
|----------------------|                                                                     |                                        |
| Wed June 30          | Course Introduction: Technical Writing in Context                   |                                        |
| Thursday July 1      | Introduction to Document Design; Introduction to Assignment One     |                                        |
| Friday July 2        | Developing Proposals; bullets, numbered lists and parallel structures|                                        |
| Tuesday July 6       | Introduction to editing and proofreading; paramedic method           | Draft Workshop                          |
| Wednesday July 7     | Introduction to the Job Application Packet; Mapping the Job Application Process | Proposal Due                          |
| Thursday July 8      | Application Letters; active vs passive voice                         |                                        |
| Friday July 9        | Resumes; general elements, action verbs                              |                                        |
| Monday July 12       | Resumes Cont’d; chronological vs functional resumes                  |                                        |
| Tuesday July 13      | Follow-up materials                                                 | Draft Review                            |
| Wednesday July 14    | Introduction to the Technical Description                           | Job Application Packet Due              |
| Thursday July 15     | Technical Descriptions: Creating Definitions                        |                                        |
| Friday July 16       | Creating Descriptions                                               |                                        |
| Monday July 19       | Visuals in Technical Documents                                      |                                        |
| Tuesday July 20      | Style Workshop: The Paragraph                                       | Draft Review                            |
| Wednesday July 21    | Introduction to the Progress Report                                  | Technical Description Due              |
| Thursday July 22     | Producing Graphs, Tables and Charts                                  |                                        |
| Friday July 23       | Ethics Case Study: The Columbia Accident Investigation Report        |                                        |</p>
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<tr>
<td>Monday July 26</td>
<td>Ethics Case Study: Cont’d</td>
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<td>Tuesday July 27</td>
<td>Style Workshop</td>
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<tr>
<td>Wednesday July 28</td>
<td>Introduction to the Instruction Set; Planning</td>
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<td>Thursday July 29</td>
<td>Procedures and Instructions</td>
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<tr>
<td>Friday July 30</td>
<td>Designing Effective Instructions</td>
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<td>Monday August 2</td>
<td>Usability Testing and Technical Documentation</td>
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<tr>
<td>Tuesday August 3</td>
<td>Style Workshop</td>
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<td>Wednesday August 4</td>
<td>Introduction to the Final Report; elements in</td>
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<td>Thursday August 5</td>
<td>Prefatory Materials in Formal Reports; Formatting</td>
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<td>Friday August 6</td>
<td>Visuals in technical reports; Using and Citing</td>
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<td>Monday August 9</td>
<td>Draft Review</td>
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<td>Tuesday August 10</td>
<td>Draft Review</td>
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<tr>
<td>Wednesday August 11</td>
<td>Final Report Due</td>
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Note that we have some blank days on the syllabus. I reserve the right to fill those days with material appropriate to the course. I will make these decisions based on class progress and student requests.
Assignment 1: Report Proposal

Due: Wed July 7

Assignment Goals

By the time that students have completed this assignment, they should be able to:

- Compose proposals for a non-specialist audience
- Utilize principles of document design to create readable technical documents
- Utilize principles of editing and proofreading to create readable technical documents
- Discover and specify the purpose(s) of their writing.

Assignment Format

Your proposal should be 2-4 single spaced pages. Your proposal should be composed as either a standard business letter or a memo, and should be presented in an appropriate 12-point font.

In order to successfully complete this assignment, your proposal will need to include:

- Problem Statement or Needs Assessment
- Objectives
- Plan
- Evaluation or Quality Control
- Personnel and Qualifications

You should also include all draft material with your final proposal.

Instructions

For Assignment 6, you will write a report for decision making (or what is sometimes called a recommendation report). In order to undertake that report, I am asking you to first produce a report proposal that informs me of your project, and the plan you intend to follow in order to complete that project.

Your report will aid a reader in solving a problem by presenting the results of research and your evaluation of the significance of the findings. The recommendations will suggest specific actions to solve the problem. Your research methods will probably include library (or secondary) research, but since the problem is particular to a time and place, you will also conduct research by "primary" means of information gathering. The report will highlight criteria for decision making in its structure.

Your report will answer one of the following questions:
• Will X work for a specific purpose? (feasibility study)
• Is X or Y better for a specific purpose? (comparative analysis)
• Why does X happen, and what can be done about it? (cause-effect analysis)
• How can we use X to best advantage?

The Problem

Look for a project with practical application; that is, be able to define how a specific reader will use your report. The best projects are real and "local" rather than theoretical. (Don't ask huge questions, such as whether universal health care is feasible in the United States.) Practical topics relate to your work, organizations, or field of specialization. The recommendation must require the investigation of at least two criteria for decision making in at least two of the three categories: technical, managerial, and social.

Sample Topics

• Is it feasible to install speed bumps on Shortlidge road?
• Is it better for the contracting company I work for to install concrete slab driveways or regular asphalt driveways in the development they're working on?
• Which type of marketing would be better for the Meals-on-Wheels new promotional campaign: flyers and brochures, or a public relations video?
• Which law school is better for a career in intellectual property, Dickinson or Pitt? Why do the necks of subjects ache when our lab does tests for zero-gravity muscular motion, and how can we fix the problem?
• Why are the Internet connections so slow in Pollock Hall, and how can we make them faster?
• Are more bicycle paths feasible for the Penn State campus?
• Is a Diver Propulsion Vehicle a feasible project for the senior design project in mechanical engineering?
• What resources are available on the Internet to support research in my discipline? (Categorize by type, recommend particular ways to use the net for specific inquiries.)

The Report Proposal

Your report proposal should outline your plans for successfully completing the final report. In order to convince me that your report needs to be written, you will need to successfully demonstrate the urgency of the problem or topic you are exploring.

Therefore you will need to succinctly describe the problem, the research that you will need to complete in order to inform a non-specialist audience about the problem, and the goals that will determine whether or not your report is successful. In addition to a problem statement, a plan, and evaluative criteria, your proposal should also provide your audience with a brief discussion of why you are qualified to complete this particular project.
Assignment #2: Job Application Packet

Due: Wed July 14

Goals

By the time that students have completed this assignment, they should be able to:

• Compose effective cover letters and resumes
• Describe rhetorical choices and design issues
• Identify their readers and describe the characteristics of their readers in a way that forms a sound basis for deciding how to write to them.
• Observe appropriate generic conventions and formats for letters, résumés, memoranda, and a variety of informal and formal reports.

Format

Your job application packet should be approximately 6 single-spaced pages, and presented in an appropriate 12-point font. Your two cover letters will each be 1 page in length. Your resumes should likewise be 1 page. Your analysis memo will be 2 pages. Be sure that your letters are in business letter format, and that they are signed. Be sure that your memo is in memo format and initialed.

In order to successfully complete this assignment, your job application packet will need to include:

• Two cover letters for two significantly different jobs
• Two resumes to accompany your application letters
• One analysis memo
• Two job descriptions to which you are responding
• All draft materials

Instructions

Most people obtain jobs through a multi-stage process. First you research the types of jobs you are qualified for and the types of employers you would like to work for. Then you try to convince specific employers to consider you for a job. These days, most employers have too many applicants per job to interview each personally. These employers sort through job application packages (resumes and cover letters) to decide which applicants to consider further. So your first communication with your future employer is likely to be in writing and must persuade him or her to continue the conversation.

For this assignment, you will write:
Two cover letters addressed to different prospective employers and that apply for two different types of jobs. The letters should highlight different aspects of your experience relevant to the different jobs.

Two resumes that differ significantly in content or in layout or both. The choices of content and layout should emphasize appropriate experience for each job.

A cover memo addressed to me that overviews the two jobs, reviews what you know about these particular employers, and describes the strategies and tactics you have used to adapt your letter and resume to each situation. I expect you to make good use of the information in this memo in the arguments you present in your cover letters to the employers.

Cover Letters

While your resume is more broadly addressed to any employer with a certain type of job opening, the cover letter is most effective when tailored to a particular employer. The purpose of the cover letter is to persuade that specific employer to grant you an interview. Just as you appreciate being treated as an individual rather than as a statistic, so does an employer. Are you applying hit-or-miss to every company in the country? Or have you invested some effort into finding a company that you are well suited for?

The opening of your letter should establish why you are writing to your reader. Be explicit about the fact that you are looking for a particular kind of job and explain why you would like to work at that particular company. Preview the body of the letter by stating your major qualifications for the job. The body of the letter develops each qualification with specific evidence. The goal is to show the reader both that you know what that specific company needs and that you have what it takes. You may organize this section in various ways: around your training and experience, around what the job or the company requires, or some other way. The letter should close by inviting a response.

Cover letters are difficult to write because they aim at somewhat conflicting goals. On the one hand, you want to make a good first impression. So you want to sound polite and fairly formal. On the other hand, you want to stand out from the crowd—otherwise, why should the employer hire you rather than any of the other applicants? The best policy is probably to talk to your reader as directly and naturally as possible. Avoid hype.

Resumes

The purpose of the resume is to describe your qualifications for a type of job. Since this assignment requires you to apply for two different jobs, you will need to create two different resumes.

Your resume should include contact information and relevant details of your educational training, professional training, special accomplishments, and skills. A resume is not a life history. The goal is to argue that you are qualified for a particular type of job and that you would be a capable, responsible, and personable employee who communicates effectively.
Your format may be traditional or innovative as long as it is appropriate and as along as the information is highly accessible and is organized in a way that highlights the most important items (from the employer's perspective).

Your style should be fairly formal. You need not use complete sentences, but you should use a concise, active style and show consistency in grammar, construction and expression (parallel structures) from section to section.

**Analysis Memo**

Write a brief memo (approximately two pages) addressed to me that will help me read, understand, evaluate, and "coach" your resumes and cover letters. For each of the two jobs, the memo must contain a separate job description and audience analysis, as well as a commentary highlighting how you adapted your resumes and cover letters to the different jobs. Since the memo will be of use to you in designing the rest of your job application package, you probably should think about it early—even begin drafting it early. But you should look over it carefully at the very end of the project to make sure that it tells me "how to read" your resumes and cover letters.

You may base your **job descriptions** on job listings that you find in a professional or trade journal, on the Internet, or in other resources on campus at Career Services. The jobs should be different enough that you will have to emphasize different parts of your experience to qualify for the positions. You may also (with my permission) write for a summer job, an internship, or for a scholarship or other award. Note that you must hand in copies of the job ads you use.

For your **audience analysis**, you should investigate the particular companies you are applying to. You may obtain information on many companies from the library, on the Internet, or from Career Services. You may also contact the personnel office of the company directly. Then write one or two paragraphs that specify any special qualities or experience that this company may be looking for in its employees. For example, suppose you are applying for a job as a chemical engineer. A small company may be looking for an engineer who can work on a variety of projects, while another may be looking specifically for someone with experience with polymers. This is also the place to describe anything you know about the particular person you are writing to. Note: I expect you to make extensive use of this information in your cover letter. It might also have a big impact on the organization and choice of details in your resume.

In your rhetorical analysis, you should describe how you adapted each resume and cover letter for its particular type of job, company, and reader and why you made those changes. Normally, your reasons will be closely related to the information in the job description and audience analysis.
Standard for Correctness

Employers impose a strict standard of correctness on application materials: An error is the equivalent of a bad spot on your shirt. Accordingly, I will mark this assignment on a stricter scale than usual. If any letter or resume contains more than two typographical or grammatical errors, I reserve the right to dock the entire package one letter grade. I will dock the package even more if there are numerous typographical or grammatical errors.
Assignment 3: Technical Definition/Description

Due: Wed July 21

Goals

By the time that students have completed this assignment, they should be able to:

- Use definition and description models to communicate technical information to a non-technical audience
- Invent the contents of their communications through research and reflection
- Arrange material to raise and satisfy readers' expectations, using both conventional and rhetorical patterns of organization
- Design and use tables, graphs, and technical illustrations
- Compose effective sentences

Format

Your technical definition/description should be 2-4 single-spaced pages, and presented in a suitable 12-point font.

Your description/definition should include:

- Your final draft
- A list of source materials you used (including sources of visuals, product information, etc.)
- All draft materials

Instructions

Engineers and scientists are often required to describe a technical object, concept, or process to someone who has little knowledge or experience with the subject at hand. For example, your engineering firm might write a proposal to bid on a contract to develop a helicopter for the Defence Department; one section of the proposal would be a detailed description of the product your propose to develop. Technical descriptions are used before products and processes are developed (as part of proposals and planning documents), during development (in progress reports, for instance), and afterwards (as part of marketing and promotional literature and technical support documents).

There are two different kinds of technical descriptions to consider. Choose whichever one is appropriate, depending on your topic.

A product description explains the features of a specific device, like a scientific instrument or computer program. Possible topics include devices that are specific to your field, or devices you use in everyday life:
- Manual grass clippers
- Fuel cell
- Battery
- Catalytic converter
- Manual can opener
- Your favorite computer or video game
- A specific car model

A **process description** explains how a complex event occurs, including a mechanical process (i.e. how donuts are made) or natural event (i.e. how lightning is produced). You can choose a process that is specific to your field, or one that people may be curious about:

- How a specific drug works
- How steel is made
- How fuel cells work
- How a computer compiles and executes a program
- How your microwave works
- How food products are irradiated

**Audience**

Select an audience that would be interested in learning about the process or product you explain. For example, you could assume an audience of students reading about your topic in a textbook. You could write a marketing document to persuade people to buy a product. Or, you could write a description that would be part of a proposal being sent to a potential client.

**Gathering Information**

Look for technical support documents for the product or process you are describing. Search the web courses for technical documents that are related to your topic, or draw on material you’ve used in other courses.

**Contents**

For **product descriptions**, start with a definition of the product and its various parts. Next, describe each part in more detail, including its dimensions, materials, function, and relation to other parts. Conclude with a description of one complete operating cycle for the product.

For **process descriptions**, start with a definition of the process and the different steps it involves. Next, describe each step in more detail. Conclude with a summary of one complete cycle in the process.
In either case, though, remember to choose contents based on the audience’s level of interest, experience, and knowledge about the topic.
Assignment 4: Progress Report

Due: Wed July 28

Goals

By the time that students have completed this assignment, they should be able to:

- Compose an effective discussion of a given project
- Deploy and manipulate report conventions
- Reveal the organization of their communications by using forecasting and transitional statements, headings, and effective page design.
- Evaluate their documents to be sure that the documents fulfill their purpose and to ensure that they can be revised if necessary.

Format

Your progress report should be 3-5 single-spaced pages. Your proposal should be composed in either business letter or memo format, and should be presented in a suitable 12-point font.

Instructions

A progress report updates a project supervisor on work accomplished and work remaining on a long-term project. The report helps an organization coordinate related projects. The report should persuade the supervisor that you will achieve the intended goals by the specified deadline. The report also offers an opportunity to propose a slight change in focus or methods or to request additional support. If the progress is satisfactory, the supervisor will continue support of the project (and of the investigator). If progress is not satisfactory, a project may be canceled or assignments redefined.

Your assignment

Prepare a progress report on your major report project. The progress report should:

- summarize the project,
- describe accomplishments (e.g., research, writing, construction of graphics—be specific),
- identify work remaining,
- evaluate the progress overall.

You may describe problems encountered (especially if the problems will shape the final outcome, such as a shift in purpose), but don’t whine. If possible, explain how the problems have or will be resolved. The report should be positive in tone without being
inflated in its assessment. The best way to accomplish this goal is to be specific about accomplishments. The best way to be specific about accomplishments is to have some! Plan your research and writing so that you will be able to describe your progress in a way that attracts the approval of a supervisor. In other words, work on the most important tasks first, and budget your time wisely.

**Structure**

1. Begin the report with a brief overview of the project’s purpose and scope.
2. For the body of the memo, describe the work you have accomplished so far, any problems you have encountered, and what remains to be done. There are two essential ways to structure the progress report: chronologically (work completed-work in progress-work remaining) or by task (interview, library research, writing). Either way, you need to be very specific! For instance, rather than saying “conducted interview,” say “interviewed G. Smith and P. Jones regarding feasibility of computer-based instruction to teach productivity skills”.
3. Optional: Within the body of the memo, or at towards the end of the report, writers sometimes include a table to summarize tasks and completion dates. You may also wish to include a separate section describing any complications you’ve encountered and how you plan to address them.
4. For the conclusion, indicate whether the project is on schedule according to the management plan.
Assignment 5: Instruction Set

Due: Wed August 4

Goals

By the time that students have completed this assignment, they should be able to:

• Design and write instruction for a specific audience
• Test technical documents for their usability
• Identify their readers and describe the characteristics of their readers in a way that forms a sound basis for deciding how to write to them.
• Invent the contents of their communications through research and reflection. Arrange material to raise and satisfy readers' expectations, using both conventional and rhetorical patterns of organization.
• Reveal the organization of their communications by using forecasting and transitional statements, headings, and effective page design.

Format

Your instruction set should be 3-5 pages, and presented in a suitable 12-point font.

Instructions

Instruction sets are common technical documents for many disciplines and occupations. Employees read instructions to learn how to assemble a product or complete a procedure. Supervisors write out company policies that oftentimes serve as instruction sets. Customers read instructions for using a product. For this assignment, you will develop a set of instructions advising users to perform a specific task.

Before deciding on a task, consider the following guidelines:

• Choose something you are very familiar with. It can be something related to your field of study (i.e. how to use a particular piece of laboratory equipment), or something related to a more general audience (i.e. how to learn to juggle).
• Your audience should be someone who has never performed this task before.
• Your audience should have a general understanding of the topic area.
• Choose a task with an appropriate level of difficulty—neither too easy nor too hard to explain in the space allotted.
• The task may involve a device: assembling it, operating it, or fixing it. Or it may involve some process (e.g., registering using eLion). You may choose the task from a course, a hobby, a previous job, or some skill you’ve acquired in school.
• The device or process should have discrete parts or steps that are fairly easy to name and refer to.
• Your task should be explained in two-three pages of written instruction, with visuals.
Topics

Your instructions should help users to perform any kind of task that requires several steps or stages. Here are some topic ideas:

- how to change the oil in your car
- how to iron a shirt
- how to add another component (CD-ROM, hard drive, sound card, etc.) to your computer
- how to groom a dog
- how to reformat your hard drive (yikes!)
- how to fully use your ATM card (include many options, not just how to withdraw and deposit)
- how to cook a turkey
- how to operate a Rotovap
- how to French braid your hair (or someone else’s)

Contents

Depending on the nature of your task, you may wish to include some or all of the following contents.

- Introduction or background information. Here you’ll provide your reader with the following information, if applicable:
  - an overview of the steps needed to complete the task
  - definitions of terms or concepts they need to know before they proceed
  - cautions or warnings that apply to the task as a whole
  - a sense of how long the task will take
  - where they should perform the task (i.e. in a well ventilated area, outside, on a flat surface, etc.)
- List of materials or ingredients needed.
- Diagrams, drawings, photographs, figures, or tables. (Pencil sketch or description of the diagram is fine).
  - Include captions for each illustration or figure.
  - Label charts and diagrams clearly.
  - Make sure to give a sense of scale and orientation.
- List of steps, in chronological order.
  - Make sure you use active verb commands.
  - Phrase each step clearly and concisely.
  - Provide “feedback” that informs the reader what will happen after they complete each step.
  - Include warnings or cautions before readers will encounter problems.
  - Break long lists into sections with appropriate sub-headings.
  - Make sure sub-headings and steps are phrased in parallel form.
- Troubleshooting tips.
- Glossary of key terms and definitions.
Organization

Obviously, instructions are normally organized in a chronological order. Beyond that, here are some other guidelines:

- The focus of instructions should be on tasks the user performs, not capabilities of a system or product. Headings and sub-headings should reflect this focus. For instance, “Compiling your program” puts the focus on the audience’s task, while “Program compilation” puts the focus on the system.
- If there is no necessary chronological order for your instructions, then choose another rationale for the organization. For example, you could move from more to least important tasks, from general to specialized tasks, from most to least common, and so on.
Assignment 6: Technical Report

Due: Wed August 11

Goals

By the time that students have completed this assignment, they should be able to:

- Create a detailed and effective discussion of a completed project
- Compose and publish a professional quality report
- Use page grids and style sheets to produce technical documents
- Deploy and manipulate the conventions of a formal analytic report
- Invent the contents of their communications through research and reflection. Arrange material to raise and satisfy readers' expectations, using both conventional and rhetorical patterns of organization.
- Reveal the organization of their communications by using forecasting and transitional statements, headings, and effective page design.
- Design and use tables, graphs, and technical illustrations.
- Compose effective sentences.
- Evaluate their documents to be sure that the documents fulfill their purpose and to ensure that they can be revised if necessary.

Format

The body of the report, including introduction and conclusions, should run 5-8 single-spaced pages in 12-point type. The preliminary and supplemental pages will be additional. Number pages, use a running header, and use headings in the report text.

Your report will include the following elements:

- letter of transmittal
- title page with descriptive abstract
- table of contents
- list of visuals (if you have more than two)
- glossary (if necessary)
- executive summary
- introduction
- discussion section organized according to criteria for decision making
- conclusions, recommendations
- appropriate documentation, according to the style used in your field
- appropriate supplements (e.g., copies of research instruments, such as survey forms)
- visuals (tables, graphs, drawings, photos); at least one visual is required
Instructions

For Assignment 6, you will write a report for decision making (or what is sometimes called a recommendation report). Your report will aid a reader in solving a problem by presenting the results of research and your evaluation of the significance of the findings. The recommendations will suggest specific actions to solve the problem. Your research methods will probably include library (or secondary) research, but since the problem is particular to a time and place, you will also conduct research by “primary” means of information gathering. The report will highlight criteria for decision making in its structure.

Your report will answer one of the following questions:

- Will X work for a specific purpose? (feasibility study)
- Is X or Y better for a specific purpose? (comparative analysis)
- Why does X happen, and what can be done about it? (cause-effect analysis)
- How can we use X to best advantage?

The Problem

Look for a project with practical application; that is, be able to define how a specific reader will use your report. The best projects are real and “local” rather than theoretical. (Don’t ask huge questions, such as whether universal health care is feasible in the United States.) Practical topics relate to your work, organizations, or field of specialization. The recommendation must require the investigation of at least two criteria for decision making in at least two of the three categories: technical, managerial, and social.

Research

You must use at least two types of research, such as letter of inquiry, questionnaire, interview, site inspection, Internet research, and library research. (If your project is an analysis of uses of the Internet in your discipline, one type may suffice.)

Sample Topics

- Is it feasible to install speed bumps on Shortlidge road?
- Is it better for the contracting company I work for to install concrete slab driveways or regular asphalt driveways in the development they’re working on?
- Which type of marketing would be better for the Meals-on-Wheels new promotional campaign: flyers and brochures, or a public relations video?
- Which law school is better for a career in intellectual property, Dickinson or Pitt?
- Why do the necks of subjects ache when our lab does tests for zero-gravity muscular motion, and how can we fix the problem?
- Why are the Internet connections so slow in Pollock Hall, and how can we make them faster?
- Are more bicycle paths feasible for the Penn State campus?
• Is a Diver Propulsion Vehicle a feasible project for the senior design project in mechanical engineering?
• What resources are available on the Internet to support research in my discipline? (Categorize by type, recommend particular ways to use the net for specific inquiries.)

Evaluation criteria

I will evaluate the reports according to these expectations:

The **executive summary** reflects the entire report concisely. Introduction, findings, conclusions, and recommendations are covered. Significant factual information is present. Sentences are efficient, and the summary does not exceed one page.

The **introduction** states a problem (with who-what-when-where-why-so what information), identifies a research question, explains methods, and forecasts the rest of the report.

The **body sections** reflect criteria for decision-making. Headings are parallel. Each body section is a mini report, with an introduction, findings, and conclusion. The introduction defines the issue and explains its significance. The findings report what you have discovered through research. The "conclusion" (just on that issue) tries to define the significance of the findings for the research question and to reconcile any conflicts.

The **conclusion section** for the entire report weighs the results from all the criteria and answers the research question. All the criteria should be accounted for. The conclusion does not introduce any new criteria. The section includes interpretive (not just factual) statements: words like “more important because...” or “a more immediate need” or “long term benefits outweigh short-term costs.” You put the findings for each criteria in relation to one another. You justify and explain your answer to the research question. The conclusion answers the research question: An explicit statement will say something like “A is the better choice” or “X is not feasible at this time.”

The **recommendations** direct specific action (without explanation or justification). The recommendations may (but do not have to be) in list form. If there is a list, the verbs may be “command” verbs (imperative mood). Items in the list are in parallel form.

All the **report parts** are present (title, table of contents, executive summary, report, illustrations, references etc.). Illustrations support the argument (they highlight important information that would be harder to understand with words alone) and they are constructed and labeled according to conventions. Format reveals the structure. Headings show main divisions. A running head and page numbers help readers find their place. Preliminary pages are numbered with roman numerals. Sentence style emphasizes strong verbs. Grammar and mechanics are correct. References are complete and accurate. The citation style is the one used by the writer’s discipline (e.g., APA for social science and
business, reference notes for engineering, MLA for literature, Chicago-author/date for technical writing).

**AND, finally:** The problem is significant, research is good, reasoning is sound. The report is convincing and important.