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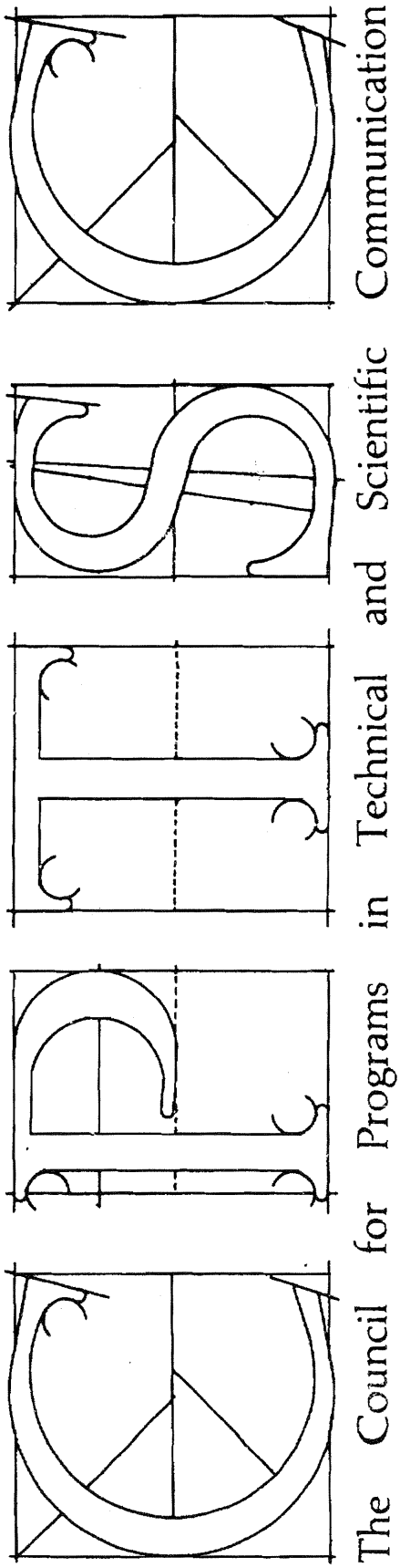
ABSTRACT

Articles in these proceedings of a conference of the Council for Programs in Technical and Scientific Communication represent the views of professional communicators and academicians who share a concern for providing breadth and quality of preparation for present and future technical communicators. The 11 papers discuss the following topics: (1) technical writing at Case Western Reserve University as a bridge between the humanities and technology, (2) developing a heterogenous versus a homogeneous technical writing class, (3) the oral communication laboratory, (4) a new degree option in technical writing at Oklahoma State University, (5) new technical writing courses at Eastern Washington University, (6) updating the writing program at the University of Minnesota, (7) the technical component of degree programs, (8) a proposed master's degree in technical writing at Oregon State University, (9) designing a master of technical and scientific communication program, (10) a nonpragmatic intellectual rationale for technical writing graduate study, and (11) the master's program in professional writing at Carnegie-Mellon University. The conference program, minutes from the Council's annual meeting, and a list of program attendees are included. (HTH)

Proceedings 1981



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BUSINESS MEETING

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PREFACE

When the 1981 CPTSC convened at the Waterfront Activities Center at the University of Washington in Seattle, it was apparent there would be some difficulty concentrating on business. While savoring our morning refreshments on a patio overlooking magnificent flowers and foliage, we were also aesthetically nourished by glimpses of fog-shrouded mountains, and a panoramic view of sailboats and canoes skimming the peaceful waters of Lake Washington. The extra curricular delights continued as, after the meetings, we sampled salmon, crab, shrimp, and other local specialties. Some of us rode the ferry (enjoying the wind and rain), met the captain, and learned a bit about how modern technology has improved the operation and safety features of that vessel. But we also learned that navigational skill is still largely a matter of human judgment and experience. Mostly, however, we listened to each other, talked and exchanged ideas.

When we made the decision to hold the 1981 meeting in Seattle, we were aware that some of our members would not be able to travel so far, given present academic budgets. But since we had never held a meeting on the west coast, it seemed only fair that we should provide our western colleagues an opportunity to attend a CPTSC meeting. We are pleased to report that, despite travel constraints, twenty members from eleven states did attend, and contributed to a lively, constructive conference.

These proceedings have been compiled for those of you who were unable to join us, as well as for those who did attend. We hope you will find the papers useful as you develop and revise your courses and programs.

A record of the business transacted in Seattle is included in addition to the papers presented. We hope these materials will inspire you to join us next year, when we gather at Carnegie-Mellon University in Pittsburgh.

We wish, again, to express our appreciation to the University of Washington for hosting the CPTSC in 1981, and to the organizers of the conference, Drs. Myron White and James Souther.

Virginia Alm Book
Editor

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Program

1981 CPTSC CONFERENCE

University of Washington — April 23 and 24

Thursday, April 23

8:30	Pick-up at the Sherwood Inn and transportation to University's Waterfront Activities Center Coffee and doughnuts at the Waterfront Activities Center
9:15	Welcome by Chairman Dell Skeels, Department of Humanistic-Social Studies; Dean Kermit Garlid, College of Engineering
9:30	New Courses at Eastern Washington University (Judith Kaufman) Syracuse University (Carol Lipson)
10:20	Break
10:35	New Programs at Oklahoma State University (Tom Warren) Drexel University (Dave Jones)
11:25	Lunch at the Sherwood Inn (round-trip transportation will be provided)
1:00	New Programs at Case-Western Reserve University (Marilyn Samuels) Miami University (Paul Anderson)
1:50	Break
2:05	New Programs at Oregon State University (Simon Johnson) Carnegie-Mellon University (Beekman Cottrell)
2:55	Break
3:10	Updating the Program at the University of Minnesota (Victoria Winkler)
3:40	The Classroom Situation: Heterogeneous vs. Homogeneous (Gary Poffenbarger, Texas Tech University)
4:10	Return to Sherwood Inn
6:00	Pick-up at the Sherwood Inn and transportation to Ivar's Indian Salmon House
6:30	Social hour at Ivar's
7:30	Dinner at Ivar's (return transportation to the Sherwood Inn will be provided)

Friday, April 24

8:30	Pick-up at the Sherwood Inn Coffee and doughnuts at the Waterfront Activities Center
9:15	The Technical Component of Degree Programs (Bill Coggin, Bowling Green State University)
10:00	Break
10:15	Oral Communication (Sam Geonetta, University of Missouri-Rolla)
11:00	The Teacher as Consultant (Dave Carson, Rensselaer Polytechnic Institute)
11:40	Lunch at the Sherwood Inn (round-trip transportation provided)
1:15	Idea Exchange: free discussion of two to four topics suggested at the start of the conference (e.g., topics for research, the job market, technical editing, problems that programs are having, computer language as a language requirement, teacher qualifications)
2:15	Break
2:30	Business Meeting
3:30	Adjournment (return transportation to the Sherwood will be provided)

Revised Program for

Friday, April 24

9:15 The Classroom Situation: Heterogeneous vs. Homogeneous

Gary Poffenbarger, Texas Tech University

9:45 Break

9:50 The Technical Component of Degree Programs

Bill Coggin, Bowling Green State University

10:35 Break

10:40 Business Meeting

11:40 Lunch

1:15 Oral Communication

Sam Geonetta, University of Missouri-Rolla

2:00 Break

2:10 Idea Exchange

The Teacher as Consultant (Dave Carson, Rensselaer)

The Job Market

Topics for graduate/undergraduate research

PAPERS PRESENTED AT THE

COUNCIL FOR PROGRAMS IN TECHNICAL AND

SCIENTIFIC COMMUNICATION

APRIL 23-24, 1981

UNIVERSITY OF WASHINGTON

SEATTLE, WASHINGTON

TECHNICAL WRITING AT CASE WESTERN RESERVE UNIVERSITY: A POSSIBLE BRIDGE BETWEEN THE HUMANITIES AND TECHNOLOGY

Marilyn Schauer Samuels
Department of English
Case Western Reserve University

Picture,if you will, a wide, heavily-trafficked street with three lanes going east and three going west. This is Euclid Avenue in Cleveland, Ohio.

On the north side of Euclid are the buildings of Western Reserve College and Severance Hall, home of the Cleveland Orchestra. On the south side are the buildings of Case Institute of Technology, the better faculty cafeteria, and the University Hospitals.

Out in the middle of traffic is the technical communications program.

Of the cars which swerve past it, some are driven by Case Institute administrators, faculty and students, and some, by Western Reserve College administrators, faculty and students. None of them is willing to run it over; but none is going out of the way to give it a lift either.

Everyone you ask has a vague sense of somehow needing this persistent pedestrian, and they are even thinking of building a safety island for it, exactly half way between the east and westbound lanes. But it has not been built yet, because nobody can agree on who should pay for it.

Put another way, the technical writing program at Case Western Reserve University, if it is to survive and flourish, must rise to the challenge of meeting the diverse needs and expectations of, on the one hand, a prestigious technical institute, and, on the other, a pre-professional, media-oriented liberal arts college.

In summary, the problems arising from our peculiar position are these:

A. Case Institute Faculty want their students to write well, but are suspicious of the Western Reserve English Department's ability to do the job. They are not sure what technical writing is; they are only sure that one does not learn how to do it in a course in freshman composition.

B. The students of CIT, known as "casies," either prefer not to think about communications skills or are as yet unaware that they will need them. Faculty inadvertently reinforce this misconception when they respond to poor writing by eliminating or minimizing the written work required to pass their courses.

C. Western Reserve College Faculty want to attract CIT students to their liberal arts courses both to round out the students' education and to keep up enrollment. They see technical writing courses as, on the one hand, an attractive lure to their side of the street, and on

the other, as courses in direct competition with sections of literature, art and philosophy. Administrators preach the survival of the Humanities through its interaction with Technology; they sponsor symposiums to discuss how the Humanities and Technology can interact on campus. But in practice they are wary of the academic value of "skills" courses, especially those offered in the upper half of students' undergraduate careers, like 307B, my advanced technical writing course.

D. The students of Western Reserve College, known as "reservies," often assume that a course in technical writing is too technical for them. They are unaware of the need for the skills of liberal arts students in the processing and communicating of information. They are unaware of the training, often paid training, that is available to them.

Eventually, these problems can be solved by a three-fold approach. With patience and persistence, the technical writing program at my university must

1. try to meet others' reasonable expectations of us
2. re-educate people whose expectations need modifying
3. create, partly through the resolution of others' conflicting views of us, partly from our own convictions, a technical communications program that commands the same autonomy granted automatically to more traditional disciplines.

Down the line, the end goal of our program is to:

1. teach students preparing for a career in science/technology/management how to communicate their information and ideas with accuracy and confidence to any type of audience

2. make tehcnical writing and the teaching of technical writing viable career alternatives for interested liberal arts and science students

3. function as a liason between

   a. the humanities contingent and the technology contingent of our university

   b. the academic world and the world of business and industry.

Clearly, the split nature of our university, if approached properly, can be an opportunity for a technical writing program instead of a liability.

In the remainder of my time today, I would like to tell you more specifically how I have been handling some of the problems involved in spreading the word about technical writing to both sides of our university so that

   a. those of you who are presently handling or about to handle similar problems may take heart

and b. those among you who have already resolved comparable problems may give CWRU the benefit of your experience.

Let me talk first about responding to the needs and attitudes of Case Institute of Technology faculty and students. When I first joined the English Department five years ago as their specialist in Eighteenth Century Literature, there was a course in technical writing listed in the catalogue. The description read as follows:

> ENGL 307. Advanced Media Writing (3). Offered in two sections. A. Magazine Writing: writing and editing feature articles for general interest publications. B. Business/Technical Writing: writing as practiced in business enterprises, including advertising, internal and external public relations, report writing and memoranda.

Because the course is listed in bold type as Advanced Media Writing, many engineering students enterprising enough to suppose that there might be a technical writing course offered by the English department, looked through the list of offerings without noticing that what they wanted was there. It didn't really matter, because the course had not actually been offered for a long time.

When I began teaching one section of technical writing once a year, I noticed that many of my students were Acccunting majors or else students who had taken other literature courses with me. I wondered why technical writing was not enrolling technically-oriented students, such as engineering, computer science and chemistry majors.

Then I ran into the chairman of the Chemical Engineering Department at a cocktail party, and when I told him I taught technical writing, he looked up with interest and asked what university I was affiliated with. I told him I was affiliated with his university.

It finally dawned on me that on the other side of Euclid Avenue where they needed technical writing most, very few people realized that it was available at their university.

Meanwhile, it turned out that the Director of our Freshman Writing Program was being called on the carpet by the faculty of Case Institute because his freshman composition teachers were trying to teach future engineers how to write by teaching them

how to compose literary criticism.

I saw these situations as a green light. I crossed Euclid Avenue and attended several Case Curriculum Committee meetings in which I explained why students needed to learn professional communication while they were still undergraduates, and how my course which was not a course in grammer or criticism would provide that training. I zeroxed my syllabus for the CIT faculty and explained that the course had been developed based on the writing requirements in industry that I had observed as an in-house consultant. In other words, it was a practical pre-professional course.

Most of the faculty understood and agreed. They disagreed, however, on how and especially on when their students should learn to write. Some insisted technical writing should be a freshman subject "gotten out of the way" as early as possible; others argued that the course shoøuld be taken in the junior or senior year when the students knew enough about technical subjects to learn how to write about them.

Gradually, it was established that the majority of the CIT faculty would rather see students trained in technical writing in their junior or senior year.

We were coming close to resolution and action, only to discover that the resolution of one problem created another. Given the fact that every engineering or science major should have a course in technical writing in his/her junior or senior year, should the university make technical writing a required course?

Engineering majors, as it stands now, have only three or four "free electives" depending on their area of specialization. Of these 9-12 credits, only 3-6 are really "free", because there are many courses in math, physics, etc. that these students would do well to take even though they are not strictly speaking "required". If a technical writing course cannot be required, it can be strongly recommended. But all the recommending in the world is useless if the students cannot fit the course into their program.

Two options seemed open.

One was to allow students to use technical writing as a course to fulfill their humanities/social sciences requirement. From the WRC point-of-view, however, this was robbing Peter to pay Paul. Is it educationally sound to recommend that a student be exposed to technical writing instead of being exposed to philosophy, literature or art?

The other option, the one that has been approved, is to strongly recommend that engineering students take technical writing as one of their required "technical" electives.

Needless to say, a course in technical writing is no more a substitute for an introduction to fluid mechanics than it is for an introduction to philosophy. But, at least, the word will go out to faculty and students that English 307B offered by the English Department of Western Reserve College is now officially accepted as a technical elective and is strongly recommended in the engineering student's junior or senior year.

Whether this will result in droves or dribbles of new students and how the results will affect English Department staffing remains to be seen. Clearly, it is a step in the right direction.

Meanwhile, we are also making some progress in responding to the needs and expectations of Western Reserve College faculty and students. One of the biggest talking jobs here has been convincing WRC administrators that training in technical writing, particularly through work-study programs and internships is appropriately pre-professional without being inappropriately unacademic.

When I was setting up a writing internship with IBM, I asked the IBM representative to speak before a group of Deans from Western Reserve College to tell them what technical writing is, what skills it requires, and why it is needed. When the IBM representative noted that the major skills required of a technical writer were information retrieval, information analysis and understanding of human factors, I interrupted him and pointed out that these were the very skills that our students in literature and philosophy were already learning and how valuable it would be for humanities students to see that their skills were a bridge rather than a barrier to the world of technology. The eyes of the attendant humanists lit up. Not that they don't have some serious reservations about sending their students out of ivy-covered halls and into the machine world, but they are cheered by the fact that a professor with a foot in both worlds is coordinating the effort.

In short, I think Euclid Avenue is beginning to shrink--widthwise. As the gap between technology and humanities narrows, the technical writing program will land on its feet. It is only a matter of time, persistence, and patience.

At present, we are

1. offering at least one undergraduate section of tech writing every semester
2. applying for a grant to be jointly sponsored by members of the corporate community which will finance the expansion and maintenance of our offerings
3. negotiating with the CIT faculty to find a way for engineering students to fit at least one course in tech writing into their programs
4. planning a symposium on careers in technical writing to make faculty and students aware of the possibilities
5. setting up a technical writing internship worth up to one semester's credit
6. planning a summer training program for M.A. candidates in English who want to learn to teach technical writing
7. interviewing faculty, students, administrators and alumni to assess what courses are needed most and how best to provide them.

Perhaps most important, we are keeping people both inside and outside the university and on both sides of Euclid Avenue talking and thinking about technical writing. We are turning the peculiar diversity of our academic plant, half liberal arts college, half technical institute, which might have been a liability for a technical writing program into an opportunity. We are building a bridge.

DEVELOPING THE TECHNICAL WRITING CLASS: HETEROGENEOUS VS. HOMOGENEOUS

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Texas Tech University

Directors of technical writing programs are sometimes faced with their own personal desire or with a request from others to offer homogeneous sections of a technical writing course. Often the initiation of change occurs through the natural makeup of individual classes, through a request by another department or area advisor, or through a decision by the technical writing program director that it is time for a change in the curriculum. Why move from a heterogeneous-type course to a homogeneous-type course? The director quite often initiates the change in curriculum because he or she believes that a homogeneous class can more adequately serve the greatest number of students. Usually a director will plan to offer a homogeneous class on the junior level, for students are normally not familiar with their own field of study before they begin their junior year. What I would like to examine are some curriculum considerations related to the implementation of the two class types, and the advantages and disadvantages of each type. Before discussing this subject further, however, let me define what I mean by the heterogeneous and the homogeneous class types.

A HETEROGENEOUS (HTR) class consists of students from many disciplines and within each of those disciplines may include a variety of majors such as accounting, management and marketing students from the discipline of business, and biology, biochemistry and physiology students from the discipline of science. We are all familiar with the type of heterogeneous grouping. Until the semester begins, the teacher often does not know what will be the makeup of the class. Depending on the director's or department's wishes, this course is usually offered at the sophomore or junior level.

The HOMOGENEOUS (HMG) class consists of students from one major or one general discipline. The HMG class can be established on two levels. In each case the teacher incorporates (with a much greater degree) the students' subject matter, especially in assigning paper topics and using examples. The first level produces a grouped effect, that is, there is a generalized grouping of majors from one discipline, for example, science students (this grouping may include every type of science student presently in programs on campus). These general groups or disciplines consist of the humanities, sciences, engineering, business, home economics, etc. The second level produces a specialized class made up of only one specific field, such as wildlife. Moreover, this type does not disallow the student's further specialization: for example, wildlife students may choose an emphasis in such areas ecology, park administration or management. Therefore,

the specialized type is still much more restrictive than the grouped type. In the following discussion I will refer to the HTR class as the standard service course most of us teach. For the HMG class, I will refer to both the grouped and specialized types as one category, unless otherwise noted.

Since most directors of programs already offer HTR classes, let us look at some general reasons for the director wanting to offer HMG classes. Primarily, the director often initiates such a move because the director realizes that there is already some logical framework available or recently established where an HMG class can appropriately benefit a certain group of students. For instance, if a technical writing program exists within a humanities department of a college of engineering at a large university, guidelines are naturally imposed upon that type of class the program offers. This situation does not imply that other students outside of that college cannot take the technical writing class, but the director's responsibility should be to develop the courses or classes in order to help the greatest number of students, as in this case, the engineering and science students. Another example is a program a director offers at a vocational-technical college where the divisions are explicitly drawn and the categories of students are well defined. To carry this example further, if no humanities program or agriculture program exists, for instance, then the director can expect to focus on those specific programs and majors already available, such as automobile mechanics or secretarial science.

Another reason for possible development of HMG classes is a staffing situation which affords the director an opportunity of placing teachers with a specific background into a similar subject area for the HMG technical writing class. I will examine these staffing matters in more detail below.

A third reason for the director's motivation to establish HMG classes may be related to requests for such classes from deans, coordinators or advisors representing other colleges at the university. Sometimes these individuals will "guarantee" sending the director a certain number of students each semester. The department or area requesting the HMG class either requires or through advisement highly suggests the course for the student in its major course of study.

Considering these possible reasons for developing an HMG class, I propose to single out and examine three points of concern for a director who is deciding about establishing HMG classes. I will provide comparison of those points with points from the traditional type of HTR classes. The points I am considering are (1) Staffing, (2) General Curriculum Development: Sectioning and Scheduling, and (3) Specific Curriculum Development: Class Assignments.

STAFFING

Looking at the traditional HTR class, I believe that from the outset staffing for the HTR class is much easier since all the classes are based on the same type of material

and presentation of that material. The technical writing teachers are interchangeable for placement as instructors of any given section of the HTR classes. Experienced technical writing teachers have no problem in taking the reins of any HTR class, for the assignments will be virtually the same in each section (depending on the degree of uniformity the whole program maintains). Also, whether a newcomer to the teaching of technical writing be an experienced literature or composition teacher, or a graduate student, the newcomer will obviously have some problems with teaching a new course, as any new teacher does. But the HTR class structure offers the newcomer greater flexibility, and he or she can receive help from the other experienced technical writing teachers since they also teach HTR classes. The HTR class may present a new format and material to this teacher, but it does not thrust this individual into additional imposed subject matter, specific matter that a teacher uses in the HMG class. The newcomer has a better chance for choosing sample papers and examples of a heterogeneous nature, examples with which he or she is more familiar.

On the other hand, the director trying to staff the HMG classes finds greater difficulties even with the use of experienced technical writing teachers. The matching of teachers to restricted subjects used as the basis for the grouped or specialized HMG classes is an action the director finds nearly impossible to fulfill. This "tailoring" can only be accomplished in the best of circumstances under truly ideal conditions. The director may possibly match up a few teachers

to subjects with which they are familiar, but the opposite result is more likely. For instance, for an engineering HMG class the director may not be able to use a teacher who has a degree in engineering, or who has taken engineering courses, or who has real work experience with engineers. I do not want my example to reflect the attitude that a technical writing teacher cannot adequately take over the teaching of an engineering HMG class, but I want to indicate the teacher must have an extraordinary willingness to learn some engineering material and, more importantly, that teacher must learn to adapt to the thinking and attitudes of engineering students, expecially if the teacher is going to be totally successful with the students. A technical writing teacher may develop a negative attitude toward both the HMG class and its students if that teacher is thrust into the course and has no devotion or aptitude for the restrictive subject matter.

For the specialized HMG class, such as pre-law or pre-nursing (pre-professionals), the director should choose an experienced teacher who is preferably full-time and tenured. Why? This choice of teacher helps develop continuity for the program in the special homogeneous circumstances: a teacher with these credentials can help cultivate such a class, can work more directly with the advisors in coordinating relevant material, and can therefore build up confidence and extreme expertise about the topics the teacher discusses and the goals the students undertake. Once again, in either

the grouped or specialized HMG situation, the teacher may have little background in a particular discipline or field. What is most important is the technical writing teacher's desire to devote extra time and effort to becoming a good teacher of the HMG class. Sometimes the teacher is successful; sometimes the teacher is not.

GENERAL CURRICULUM DEVELOPMENT: SECTIONING AND SCHEDULING

When a director makes the decision to establish HMG classes in place of, or in addition to, existing HTR classes, he or she must consider some interesting factors. One of these factors is the relationship of the new HMG class(es) to any existing classes in the program. We should be aware of the complexity that may result from this relationship; however, I will not analyze this factor at the present time. But one area of concern, to continue, is the aspect of creating and implementing new HMG sections within a program's existing framework.

In the HTR format, sectioning presents no major difficulties. The director may establish any time-day schedule and select the teachers for those classes by taking into consideration their time-day preferences. There are no other major intervening problems of matching teacher to a particular class.

For HMG classes, the sectioning provides some complications. First, the director must decide on what type of sections and how many to offer. At this stage of development, consultation with department or area advisors is mandatory.

The director can then make these important decisions with the advisors' suggestions supplying helpful guidance. Next, the problem I discussed earlier concerning matching teacher to class enters into the director's decisionmaking process. Also, scheduling conflicts may suddenly develop: in scheduling a particular class, let us say a science (grouped) class or a wildlife (specialized) class, the director must be sure that those students wanting to enroll in the class have in their schedule no conflicts between the technical writing class and any required courses the students must take concurrently. Finally, another consideration involves the frequency of offering for any given HMG section. Practice and experience from semester to semester will help the director make the right decisions.

The major choice of deciding upon which option to use for the HMG classes--either grouped or specialized--is the hardest choice for the director. What may determine the solution is one or more of the following points:

(1) demand by specific types of students or general groups of students,

(2) demand by advisors of departments or areas in the university,

(3) a director's "reading" of the past and present climate that indicates change, a reading accomplished through the collection of pertinent data, e.g., category of students, frequency they take the course, and the total number of specific

students taking the course during any semester, and

(4) any other points related to the unique circumstances of the program and university.

Sometimes a director can attempt to create a demand for the HMG class, but if he or she does not establish rapport and a line of communication with campus academic advisors, then the new program will undoubtedly fail.

SPECIFIC CURRICULUM DEVELOPMENT: STUDENT ASSIGNMENTS

Any teacher of a technical writing class can take some assignment and force that assignment upon his or her students. But for the students to complete a successful assignment, they must have some initial interest in the assignment rather than receive and complete the assignment as a boring, routine piece of work.

Both the HTR and HMG class formats produce advantages and disadvantages for students' class assignments. I have selected some possible problems and solutions for the curriculum aspect of class assignments. Both HTR and HMG classes have common characteristics inherently present in any assignment. Rhetorical techniques, basic language patterns of style, and mechanics are just a few of these. I will first consider the HTR class: its advantages and disadvantages in relation to the implementation of assignments.

HTR Advantages

(1) For the HTR class, audience analysis, an important element of any assignment, is a very viable topic. When

students are exposed to assignments that involve interaction with one another, such as two students teaming up to write a mechanism description, those students benefit from trying to decide on the appropriate audience, and consequently the students intermesh their own attitudes and needs toward this topic. There is a substantial need for students to write to combined audiences. The students may direct selected assignments to an audience in their own field, but the HTR situation naturally creates the need for greater audience analysis.

(2) On an individual basis, the student can "tailor" to his or her own field some general assignments such as writing an extended definition. Then the student may rewrite and present the results to a lay audience, for example, the class. By adapting through audience considerations, the student learns better techniques of organization and presentation.

(3) For presenting assignments in the HTR class, a teacher can employ more generalized examples or a variety of examples from various disciplines. For example, the teacher can display a number of proposals from numerous companies and organizations.

(4) When students use oral presentations in a junior-level course, the class (a natural HTR audience) imposes the requirement for each presenter to analyze the audience as a group of laymen. The students avoid including jargon or technical terms (without definition) in their oral report.

HTR Disadvantages

(1) A teacher's attempt to present bibliographical methods and style manual use is difficult yet not impossible. For instance, if the teacher has ten to fifteen different majors attending the class, he or she explores a number of bibliographical methods. The teacher should either provide more individual attention to each student or devise an assignment that is quite flexible and inclusive.

(2) Even though a teacher can show the need and value for students learning a particular assignment (such as a mechanism description), some students will be "turned off" by the exercise; consequently, they will learn very little.

(3) Since a teacher loses precious time trying to "level" all assignments to each student's understanding, the teacher cannot cover as much material as he or she possibly desires to cover over the course of the semester.

(4) A teacher's conscientious preparation and indepth delivery of a given assignment are sometimes affected by the overwhelming variety of students' backgrounds and the needs they represent. A teacher becomes frustrated when an explanation of one assignment is understandable to one student and nearly undiscernible to another.

(5) When a consultant system is employed in an HTR class, greater strain is placed on the teacher and the system because of the larger number of consultants used. Continuity is more difficult to maintain throughout the semester. The teacher may find it increasingly difficult to stay informed

about the consultants' help and approval of such significant assignments as a proposal and a formal report.

HMG Advantages

(1) If the teacher selected to instruct the grouped or specialized HMG class is one who is very knowledgeable about the chosen area of homogeneity, then there should be an excellent rapport established between the teacher and the students. What's more, the teacher will enjoy presenting the assignments each time.

(2) The use of sample assignments and accurate examples are two pieces of writing the teacher can present in order to maintain continuity throughout the semester. The teacher has fewer problems relating this material to the students.

(3) The students may choose formal report topics that not only relate to their major but coincide with material concurrently presented in their major courses.

(4) Once again, if the teacher uses a consultant system for the course, the coordination and implementation of such a system will be of benefit to all. One consultant can direct the writings and projects of more than one student in the class. This process increases the relationship between the two departments involved.

(5) For the specific assignment of bibliographical methods and style manual use, the teacher can focus direct attention upon one method and one style manual. The teacher can assign more detailed and comprehensive exercises for these topics. The students will not only familiarize themselves with

the manner of style in their field, but as a collective group they can actually practice "real world" writing otherwise restricted in the HTR class.

HMG Disadvantages

(1) In HMG classes, students encounter problems with audience analysis when they study or present information to the peers in their field. Even though the teacher provides a rationale for the employment of variation in audience usage, students in an HMG class have a tendency to continue to only write to others in their own field.

(2) Jargon is another problem students seem to exaggerate in the HMG class. When given a lay audience for a specific assignment, students do not adhere to the expected needs of that audience. Too often students second-guess the assumptions they have evaluated for a lay audience.

(3) Once the teacher builds the structure of class around the premise that most assignments are directly correlated with writings in the student's major, that student sometimes has difficulty accepting an assignment that he or she finds seemingly unrelated. For instance, in trying to teach an accounting student how to write a mechanism description, the teacher often receives complaints from the student that the assignment is irrelevant. The teacher may succeed at showing the worthiness of such a description assignment, yet such conflicts are irritating to both individuals.

CONCLUSIONS AND RECOMMENDATIONS

Both HTR and HMG classes function in a technical writing program but often under strained and not ideal conditions. An HTR class is obviously more flexible and is the choice of class directors most often develop for their program. An HTR class is the easiest to administer; however, it may not be the most appropriate class for presenting material to students for their full benefit. An HMG class, on the other hand, affords more concentration and specialization for assignments. One must ask, though, whether the numerous problems related to staffing, teacher preparation, and sectioning are worth the effort of developing those courses.

For the director wanting to pursue the development of one or more HMG classes, a program of both HTR and HMG classes would seem appropriate. Instead of making a full conversion for all the courses, the director might consider offering one or two specialized HMG classes (such as pre-law or pre-nursing) and possibly expand into the grouped types later, after receiving the appropriate response, participation and support from the advisors on campus. By working with another director or area advisor, both the technical writing teacher and director can experience the various problems and solutions the HMG classes present. Of course, the key to any respectable and fruitful technical writing program is its constant interaction with departments and areas of study that supply students to the technical writing program.

THE ORAL COMMUNICATION LABORATORY

Sam C. Geonetta
Department of Humanities
University of Missouri-Rolla

A substantial body of literature attests to the amount of time an individual spends in oral communication[1] and the importance of oral communication in his professional life.[2] Yet even with this knowledge a great number of students with which the teacher of technical and scientific communication deals avoid courses in oral communication or visibly cringe when faced with oral communication assignments in other courses.

Part of this is rooted in the aversion of the average individual to speak, whether before a group or in a group. But part of it stems from the connotation attached to "speech courses" or "speeches" as experiences in systematic boredom because of the requirement that one act as a member of a captive classroom audience or because of the requirement that asks students to participate in contrived small group discussions or interviews to which they have been assigned. To students of technical and scientific communication, whether they be engineers and scientists or communication majors, these are especially difficult situations because they have many other educational experiences that are making them acutely aware of that which is professional and that which is not.

An effective tool for giving students higher quality and more professional experiences in oral communication is the oral communication laboratory. This paper discusses the establishment of an

oral communication laboratory, including a rationale for the laboratory, space requirements, types and costs of equipment and supplies, and management of the laboratory.

Rationale

The basic rationale for establishing an oral communication laboratory resides in the nature of technical and scientific communication: essentially, students are required to give and participate in sophisticated oral presentations and discussions in their professional lives. These presentations and discussions often require visual aids and audiovisual equipment.[3] An oral communication laboratory provides students with ready access to both the resources and equipment to prepare assignments that are professional in nature.[4]

Students gain much simply from the "sense of place" the oral communication laboratory gives them. Knowing they have a place to work means students are more likely to complete their assignments in a professional manner. They do not have the problem of checking equipment out through a central campus facility each time they need to practice or to make a presentation. Further, they do not feel as put upon for either their time or financial resources when they know that the laboratory is equipped and stocked for their use. It gives them resources that the professional would have at his disposal.

From the instructor's point of view the laboratory is a useful educational tool. He can conduct classes on methods and equipment because he has the resources readily available to use during class. In addition, the instructor can make specific laboratory assignments to illustrate principles of oral communication. The laboratory is

flexible for a variety of oral presentations: all he has to do is rearrange the furniture a bit and he can change the setting from a briefing room for a platform presentation to a conference room for a discussion or interview.

Overall, the student and the instructor have the opportunity to use the resources of the laboratory to their fullest. Not only does this increase the educational value of classes, but the laboratory itself becomes a sounder financial investment to the University.

Physical Resources: Space

At the University of Missouri-Rolla the oral communication laboratory occupies a room about 30'x30'. This includes space for seating twenty-five students, equipment, and storage. Appendix I shows a diagram of the room. The advantage of this room is that it seats students comfortably during regular class hours or laboratory periods and is flexible enough that it can be used for a variety of assignments. For example, a table can be moved easily to the front of the room for discussion or interview assignments, yet, unlike other conference laboratories I have seen, students still have ready access to presentational tools such as flip charts, projectors, etc. that are often used in professional discussion situations. In addition, discussions and interviews may be video-taped since they are in the same room in which platform presentations are made.

It may be difficult to find a room of this size. If this is the case, two adjoining rooms can be used. One can be the main classroom/laboratory and the other the storage area.

Physical Resources: Equipment

Equipment can be as extensive and expensive as one can afford or as one can talk his administration into purchasing. Buying equipment in a block on bid, however, results in discounts amounting to approximately twenty percent of the total retail price.[5] The key is in buying quality equipment in a systematic manner that covers instructional needs. For example, one can anticipate that opague projectors are going to be in little demand--they are too bulky, too noisy, and too hard to use effectively--so the laboratory probably doesn't need one of these expensive items. For the rare occasions when one is needed, one can use the centralized audiovisual checkout.

For assistance in selecting quality items one may consult the director of the University audiovisual center or one may consult a very useful publication called EPIEgram.[6] This is the Consumers' Report of the educational equipment filed. Appendix II includes a list of equipment in the University of Missouri-Rolla laboratory with approximate costs. This is a basic inventory of items I have found to be used enough to justify their purchase.

Physical Resources: Supplies

One of the key characteristics of the oral communication laboratory is the ready availability of supplies. Appendix III lists an inventory of supplies held in the University of Missouri-Rolla laboratory. This list is based on a pattern of use over the past two years and includes materials for use by approximately 525 students per year, which is the annual enrollment

in the various technical communication courses.

Adequate funding is necessary to renew supplies, no easy task in times of tight funding, but one which is made easier by an annual report demonstrating the use of the laboratory. If administrative funding is not satisfactory, one can assess a laboratory fee, the amount of which depends on the number of students using the facility and the amount of supplies used. Supplies should be the responsibility of a laboratory director so that he can keep an accurate inventory and control abuses. Abuses can be unintentional: a student may greatly overestimate what he needs to complete an assignment or what his abilities are. The laboratory director can best advise him when he directly controls supplies.

Laboratory Management

An individual should be responsible for directing the oral communication laboratory. This appointment defines responsibility for the maintenance and scheduling of the facility.

Classes should be scheduled on a priority basis, with time for both day and evening access when there are no classes. The laboratory should also be completely free at least one hour a week so the director can routinely check it.

To relieve the director of having to be constantly available, student assistants and a key check-out system may be employed. Student assistants are usually available through the work-study program. They can keep the facility open for an average of twenty hours per week with laboratory hours for two and a half hours during the day and two and a half hours during the evening four

days a week. Past experience with the University of Missouri-Rolla laboratory has shown that students will not use the facility on Fridays and weekends so student assistants are not required at these times. A key check-out helps resolve the problem if a student does want to work on Fridays, on weekends, or during a time when no one is available to assist him. When a student signs for the key he assumes all responsibility for the security of the area and its contents. To avoid disappointments and conflicts, it is also useful to post a sign-up sheet.

The director is also responsible for training assistants to use the equipment and to familiarize them with materials. Usually, students with either a background in communication, such as an advanced communication student, or one who has demonstrated an interest in working in communication are good assistants.

An "Equipment Log" which every individual who uses any equipment must sign is invaluable to the laboratory director. Essentially, one can extend the life of equipment with regular maintenance determined by the pattern of use established in the log.[7] But also, and almost as important, one can demonstrate use thereby justifying further maintenance and acquisition funding.

Conclusion

Once the laboratory is operational it takes some time for individuals to use it. The regular scheduling of classes in it, distributing an informative bulletin in communication classes, and making assignments that require laboratory resources are ways to encourage use.

The University of Missouri-Rolla laboratory has been fully

operational since the Spring, 1979 semester. Through the middle of the Fall, 1980 semester, equipment had been utilized for 569 hours, including 237 hours for speech-communication, 220 hours for technical writing (mostly for oral presentations), 94 hours for English as a Second Language, and 18 hours for foreign languages. The main limitation on greater utilization is that communication classes have reached maximum enrollments. Currently each year there are eight sections of basic speech with about 200 students, twelve sections of technical writing with about 200 students, and five sections of elective upper level courses with about 100 students. Student responses have been clearly favorable, with the main problem being that students want more time devoted to assignments requiring the use of laboratory resources.

NOTES

1. T.M. Burns, "The Direction of Activity and Communication in a Departmental Executive Group," Human Relations (1954), 73-97; S. Carlson, Executive Behavior, Stockholm: Stromborgs, 1951; H. Cox, "The Voices of Experience: The Business Alumnus Reports," Journal of Business Communication (1976), 37; R.A. Roth, "Control of the Technical Function," Advanced Management-Office Executive (1963), 20-24; W.O. Underwood, "A Hospital Director's Administrative Profile," Hospital Administration (1963), 37-39; and J.D. Wyllie, "Oral Communications: Survey and Suggestions," American Business Communication Association Bulletin (1980), 14-15.

2. J.A. Belohov, P. Papp, and M. Porte, "Communication: A View from Inside Business," Journal of Business Communication (1974), 53; H.A. Estrin, "Engineering Alumni Speak Out About Speech," Journal of Technical Writing and Communication (1973), 97-101; S.P. Fitch, "Communication Education for the Research Scientist," Communication Education (1980), 60-64; W.R. Kimel and M.E. Monsees, "Engineering Graduates: How Good Are They?," Engineering Education (1979), 210-212; and E.E. McDowell, L.D. Schuelke, and C.W. Chung, "Evaluation of a Bachelor's Program in Technical Communication: Results of a Questionnaire," Journal of Technical Writing and Communication (1980), 195-200.

3. Several surveys, some of which are cited above, have noted this. Typical is the observation by Fitch that "respondents commented that rarely does the scientist give a speech or present a paper without the use of visual aids," 63.

4. One of the most telling recommendations that supports the types of activity represented by the communication laboratory is found in a report from the ad hoc ASEE Committee for Review of Engineering and Engineering Technology Studies. The Committee observes that "requiring courses in technical writing and speech helps, but does not solve the problem. Requiring technical presentations of professional quality along with providing supportive guidance is often a more effective approach." J.C. Hancock, "The REETS Recommendations: A Progress Report," Engineering Education (1979), 165.

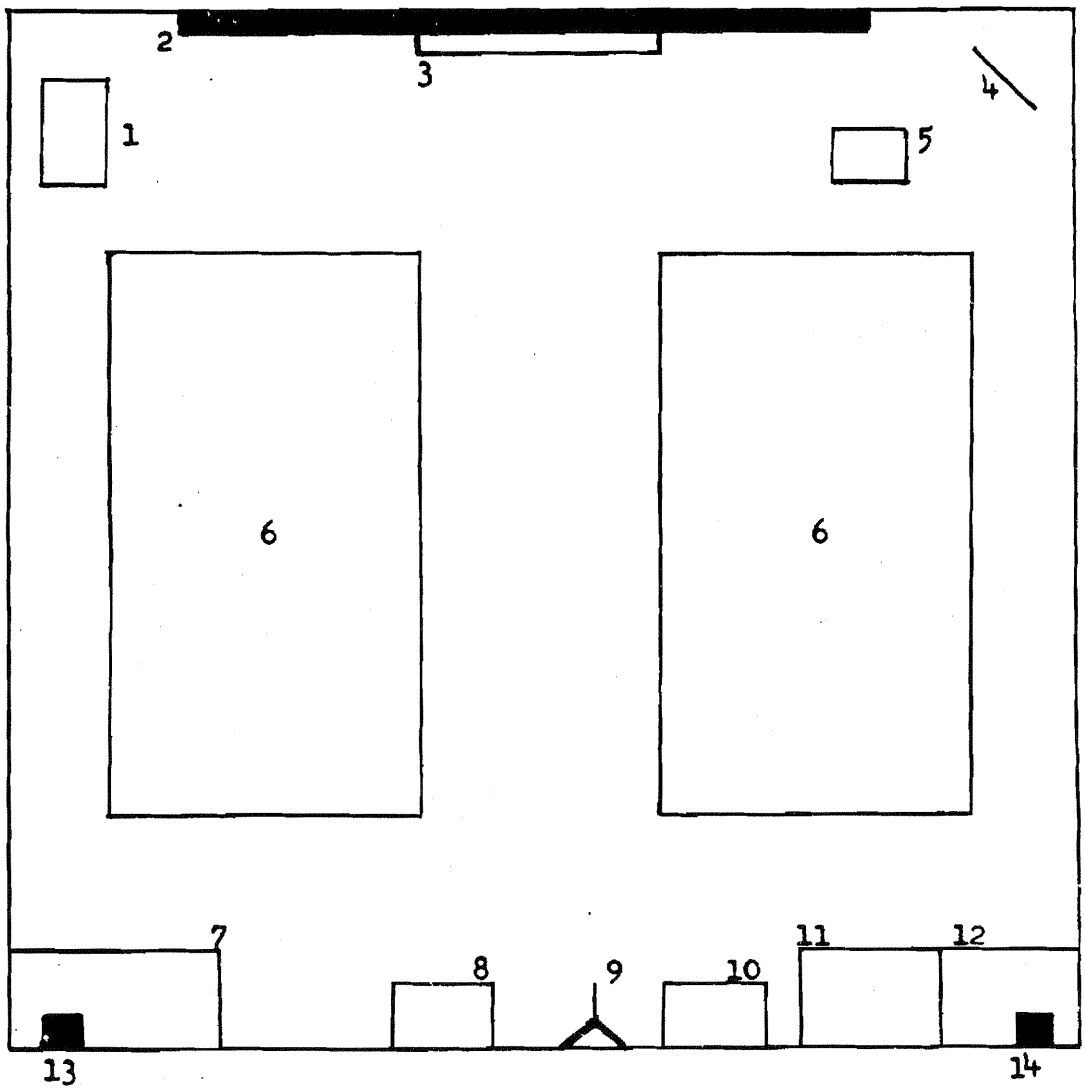
5. Through buying with a block bid I purchased $9,000 worth of equipment for about $7,100.

6. EPIEgram: The Educational Consumers' Newsletter is available from the Educational Products Exchange Institute, 463 West St., New York, New York 10014.

7. EPIEgram reports studies of maintenance intervals for different equipment or one can seek advice on maintenance intervals from the director of the University audiovisual center. The "Equipment Log" should note the date, user, time used, and use.

Appendix I:

Floor Plan of the Oral Communication Laboratory University of Missouri-Rolla



1. Overhead projector on mobile table
2. Chalkboard
3. Projector screen
4. Portable easel and flip charts
5. Podium
6. Seating
7. Discussion/work table
8. Mobile projector table
9. Videotape camera
10. Videotape deck & monitor
11. Open front storage rack
12. Locking storage cabinet
13. Speaker
14. Speaker

Appendix II:

Equipment List of the Oral Communication Laboratory University of Missouri-Rolla

(Items are listed by the amount of use they receive.)

1.	Videotape recorder/player, Panasonic NV-8200, ½" VHS format	$1150.00
2.	Videotape monitor/receiver, RCA JD975WV, 19" color	450.00
3.	Videotape camera, Panasonic WV-3100, color	900.00
4.	Overhead projector, 3M AKD 213	300.00
5.	Infrared transparency maker, 3M Secretary	500.00
6.	Easel, Optivox 1000	65.00
7.	Slide projector, Kodak 760H with 7:1 zoom lens, 25-foot extension cord for remote control, case	200.00
8.	35 mm camera, Vivitar 220SL with 135mm telephoto lens, 2x teleconverter, electronic flash, case, close-up lens set, UV filter, and tripod	485.00
9.	Copy stand, homemade using Kodak plans	5.00
10.	Slide sorter and editor	10.00
11.	Stereo taperecorder/player, SONY with speakers, case	285.00
12.	Projection screens, Dalite 60"x60", one fixed, one portable	70.00
13.	Record player, Califone portable	100.00
14.	Transparency lettering machine, 3M with supplies	550.00
15.	Microphones, Electrovoice 635AP, microphone stands, cables, patch cords, connectors	250.00
16.	Storage cabinets, one open, one locking	300.00
17.	Videotape camera dolly, Quick-Set 4-76010-4, videotape camera tripod, Quick-Set 4-73010-7	210.00

Appendix III:

Supply List of the Oral Communication Laboratory University of Missouri-Rolla

1.	Transparencies, black line, clear background 4 boxes @ $24.00 each	$ 96.00
2.	Transparencies, black line, varied colors 1 box @ $25.00 each	25.00
3.	Transparency making kit, with pens, frames, illustrations	42.00
4.	Videotapes, 120 minute, 20 @ $15.00 each	300.00
5.	Audiotapes, various lengths, 50	62.00
6.	Easel pads, 1 box with 4 50-sheet pads	27.00
7.	Carousel slide trays, 15 80-slide trays @ $3.00 each, 5 140-slide trays @ $4.00 each	65.00
8.	Three-dimensional letter kit for making captioned slides or title slides	65.00
9.	35 mm slide film, 25 rolls, 36 frames each	75.00
10.	Slide projector, overhead projector lamps	75.00

BIBLIOGRAPHY

(It is a good idea to maintain a library of materials that explain various techniques. The two sources listed here are excellent references for building such a library.)

Eastman Kodak Company. 1981 Index to Kodak Information.

This is an excellent resource because it has a list of all the publications--from pamphlets to books--published by Kodak. These books deal not only with photography but with other audiovisuals and techniques for presentations.

Kemp, Jerrold E. Planning and Producing Audiovisual Materials. 4th edition. New York: Harper and Row, 1980.

This is one of the standard texts on audiovisual materials. It is very well written and well-illustrated with information for beginners and more advanced students.

A New Degree Option in Technical Writing At Oklahoma State University

Thomas L. Warren
Director, Technical Writing Program
English Department

The English Department at Oklahoma State University offers one degree: a Bachelor of Arts in English. There are two degree options within that degree: a "regular" option (traditional program) and a teacher certification. Technical writing, film study, creative writing, and linguistics are concentrations students may elect. Each student took a minimum number of literature courses and used the electives for the concentration. Students electing technical writing took only the one required literature course at the upper level and took five courses in technical writing and two in linguistics.

The Department, through the Curriculum Committee, modified the requirements for all students majoring in English. When I saw the new requirements, I discovered that students electing technical writing would be handicapped. The new curriculum allowed a maximin of five courses to be divided between technical writing and linguistics. I subsequently submitted a proposal to the Curriculum Committee asking for a separate degree option, the third for the Department. The Committee approved the option and recommended it to the Chairman who also approved it.

The rest of the paper contains the following items from my proposal:

1. The actual proposal plus some of the attachments (I have left out excerpts from various job descriptions meant to explain what a technical writer does).
2. A justification for a new position in technical writing (submitted to the Personnel Committee and subsequently approved).

3. A summary of the results of the informal survey I took.
4. Course proposals for four additional courses to be added to the curriculum (to make a total of 10 different courses in technical writing).

Proposal to the Curriculum Committee

from
Thomas L. Warren

The Curriculum Committee recently revised the degree requirements for a B.A. in English. Because of the special needs of students who wish to become technical writers and the requirements of those who will hire these students, I propose a separate degree sheet for those who elect the Technical Writing Option (see Appendix A, Exhibit III). Instead of taking the five required courses at the 3000 and 4000 levels, the students would concentrate on courses in technical writing and linguistics.

The problem with requiring three courses in literary study at the 3000 and 4000 levels is that it will eliminate coursework that is important for the student's professional preparation. The table below compares the present degree requirements with the new requirements.

YEAR OF DEGREE SHEET	NUMBER OF COURSES IN			
	LITERATURE	TECHNICAL WRITING	LINGUISTICS	ELECTIVES
1980-1981	1	5	2	-
1981-	3	1	1	3

Students who use the three electives to take technical writing courses will miss one technical writing course and one linguistics course. Both of these are important for the student's job prospects.

I am currently surveying managers of technical publications departments across the country (a total of 20 managers) to find out the influence on hiring practices of the proposed curriculum. To date, all eleven respondants have said that the new curriculum would have a negative effect on employability. (See Appendix B for their remarks.) Students graduating under the new curriculum would have a disadvantage in the job market--at least with the companies surveyed. One effect on the Department would be a reduction of majors and an increase in students minoring in English with the Technical Writing Option. Since the minor in English does not specify which courses a student is to take, enrollments in the sophomore survey courses by students taking the Technical Writing Option could decline. A second effect would be a less-than-satisfactory education for those who decide to elect the Option--specifically those who do not want a double major and those who do not have a strong background in science, engineering, or business (specifically, those seven students who have declared English with the Technical Writing Option as a major). Preparing students to assume positions as professional technical writers requires a curriculum that differs somewhat from the students preparing in traditional literary study, film study, or creative writing. To each of the latter, the literary heritage provides a necessary background. The literary tradition does provide students in technical writing with a richness and depth not available in other departments and some benefits derive from close reading of texts and the study of literary history. Benefits, however, from an additional course in technical writing and linguistics provides professional competence not found in other courses.

For the above reasons, I request that the Curriculum Committee approve a separate degree sheet for the Technical Writing Option.

APPENDIX A

NAME _____ POSITION _____

COMPANY _____

ADDRESS _____

1. Are you in a position to make hiring decisions or recommendations?
   _____Yes _____No

2. At what starting salary range would a graduate from our program begin (no experience; follows curriculum in Exhibit I):
   _____$14k-$16k; _____$16k+-$18k; _____$18k+-$20k; _____$20k+-$22k; _____$22k+.

3. Please list typical duties and responsibilites an entry-level technical writer would be expected to perform with your organization. (A job description would be very helpful.)

4. After five years on the job, what new duties and responsibilities would the person add? (Please use the backside if necessary.)

5. If you could design the ideal class in Advanced Technical Writing, what topics would you include. Please number "1" through "n" for priority, with "1" receiving the highest priority. (Please use the backside if necessary.)

6. Please review the three curricula (Exhibits I, II, and III). I would appreciate your evaluation of the new curriculum (Exhibit II) and my proposed curriculum (Exhibit III). I will share your comments with the Departmental Chairman (Dr. Gordon Weaver) and the Curriculum Committee. In your response, consider how valuable the curriculum will be to the entry-level technical writers you may hire and work with. Please cite strengths and weaknesses of both. I would appreciate suggestions for modifying my proposed curriculum (Exhibit III). 40

7. Publish results in Technical Communication or Intercom: Yes____ No____

EXHIBIT I

B.A. in ENGLISH:
Technical Writing Option
Current Requirements

CONCENTRATION (24 hours)	SHORT TITLE	CREDITS (Sem.)
Engl 3200 (2333)	Beginning Technical Writing	3
Engl 3323	Intermediate Technical Writing	3
Engl 3523	Literary Tradition III *	3
Engl 4523	Internship	3
Engl 4533	Advanced Technical Writing	3
Engl 5293 (as 4520)	Writing for Publication	3
		6
choose two		
Engl 3413	History of English Language	
Engl 4012	English Grammar	
Engl 4023	Language and Linguistics	

* Required for all English majors

GENERAL STUDIES REQUIREMENT (56 hours)

NON-ENGLISH, UPPER DIVISION ELECTIVES (16 hours)

Junior-Senior Level Courses in
- Science
- Technology
- Enginering
- Business
- Or some combination

ELECTIVES (Freshman-Sophomore Level: 28 hours)

Computer Programming required and a selection from
- Graphics
- Management
- Statistics
- Technology
- Business
- Engineering

Total hours 124

EXHIBIT II

B.A. In English:
Technical Writing Option
Effective for all English Majors
Fall, 1981 Regardless of Option

FRESHMAN-SOPHOMORE COURSES	SHORT TITLE	CREDITS (Sem.)
Engl 1113	Freshman Composition (I)	3
Engl 1323	Freshman Composition (II)	3
Engl 2413	Introduction to Literature	3
Engl 2543	British Literature Survey (I)	3
Engl 2653	British Literature Survey (II)	3
Engl 2773	American Literature Survey (I)	3
Engl 2883	American Literature Survey (II)	3
		21

GENERAL STUDIES COURSES (Unchanged) 41

FRESHMAN-SOPHOMORE LEVEL ELECTIVES (Reduced 1 hour) 27
JUNIOR-SENIOR LEVEL ELECTIVES (Unchanged) 16
JUNIOR-SENIOR LEVEL REQUIRED COURSES (Changed) 24

Choose one course from each of the five areas (15 hours)

Language/Linguistics
- History of English Language
- English Grammar
- Transformational Linguistics
- Descriptive Linguistics
- Comparative Linguistics
- Applied Linguistics

Writing
- Creative Writing (Fiction, Poetry, Drama, Prosody)
- Film Criticism
- Applied Literary Criticism
- Intermediate Technical Writing
- Advanced Technical Writing

Criticism
- Theories of Literary Criticism
- Film Criticism
- Applied Literary Criticism

American Literature*
British Literature*

* Standard period and genre courses available

Electives (Any English Department offering not used to satisfy any other upper division area requirement: 9 hours).

Total hours 129

DATE: 1-27-81

TO: Dr. Sam Woods

FROM: Dr. Thomas L. Warren

SUBJECT: Correction of Proposal for Degree Sheet for the Technical Writing Option

The specific degree sheet I am requesting should read as follows (Replaces Exhibit III, Appendix A of the original proposal):

FRESHMAN-SOPHOMORE COURSES	SHORT TITLE	CREDITS
Engl 1113	Freshman Composition I	3
Engl 1323	Freshman Composition II	3
Engl 2413	Introduction to Literature	3
Engl 2543	British Literature Survey I	3
Engl 2653	British Literature Survey II	3
Engl 2773	American Literature Survey I	3
Engl 2883	American Literature Survey II	3
		21

GENERAL STUDIES COURSES (Unchanged) 41

ENGLISH DEPARTMENT REQUIREMENTS (Including University Requirements)

Freshman-Sophomore Level Electives	27
Junior-Senior Level Electives (Unchanged)	16
Junior-Senior Level Required Courses Changed)	18
Beginning Technical Writing	(3)
Intermediate Technical Writing	(3)
Internship	(3)
Advanced Technical Writing	(3)
Writing for Publication	(3)
Grammar	(3)
Junior-Senior Level English Electives	
Linguistics	3
Open	3
	129

New Courses to be Proposed Later (as 4520 courses)

Technical and Scientific Editing
Technical and Scientific Literature (examines examples of "great technical and scientific literature)
Research Problems in Technical Writing

EXHIBIT III

B.A. In English
Technical Writing Option
Proposed

FRESHMAN-SOPHOMORE COURSES (Same as requirements effective Fall, 1981)	(21 hours)
GENERAL STUDIES COURSES (Unchanged)	(41 hours)
FRESHMAN-SOPHOMORE LEVEL ELECTIVES (Unchanged)	(27 hours)
JUNIOR-SENIOR ELECTIVES (Unchanged)	(16 hours)
JUNIOR-SENIOR REQUIRED COURSES (Changed)	(24 hours)

Beginning Technical Writing
Intermediate Technical Writing
Internship
Advanced Technical Writing
Writing for Publication
Grammar

New Courses to be proposed

Technical and Scientific Editing
Technical and Scientific Literature (examines examples of "great" technical and scientifice literature)
Research Problems in Technical Writing

Total hours 129

QUESTION #5: CONTENT FOR ADVANCED TECHNICAL WRITING

AUDIENCE
- Write a scholarly article
- Write a popular article on a technical topic
- Analyzing the audience (3 examples)
- Write a report for someone other than the professor (e.g. student)
- Exercises that translate professional journal articles into "plain" English
- Exercises that critically rate science articles in popular magazines

EDITING
- Writing style, individual critique
- Editing/writing to standards (formats, style guides, etc.)
- Peer review as an aid to the writer
- Restricted vocabulary use; company- or self-imposed

GRAPHICS
- Mechanical drawing
- Technical illustration
- Drafting
- Industrial photography
- Use of graphics
- Audiovisual communications
- Text/art coordination

MATH
- Mathematical and technical notation as parts of speech
- Technical mathematics
- Math exercises that cipher equations from symbols into longhand English

MECHANICS OF THE LANGUAGE
- Other areas might include ethics, histories of the media, or even a foreign language--Latin, for example can be more useful than most people are ready to admit. And I firmly believe that grammar and punctuation should be emphasized at every level, in every area.
- Technical grammar
- Usage and style principles
- Grammar fundamentals

PRODUCTION
- Technical publication production
- Document design
- Preparations for printing
- Overview of the printing process
- Printing: methods; relative costs; halftone photography; steps (including when to proof)
- Presentation format: Number of columns per page; type sizes; types of graphics; color; special tools such as ziptone; "Information Mapping"
- Types of presentation: 3-ring binders; pamphlets; plastic ring-bound notebooks
- Page layout and illustration coordination
- Estimating costs

PSYCHOLOGY
- Psychological considerations
- Author-editor relationships
- Editor/artist/production staff relationships

RESOURCES
- Resources and techniques (use of libraries including technical journals, house organs, and government collections--National Technical Information Service, for example) and interviews (going to the source--talking to scientists and researchers--how to get the information on notes or tape)
- Research tools
- Bibliography of style guides, grammar guides, and other reference tools
- Obtaining information: interviewing; specs; project plans; professional journals; fellow writers; reasoning
- Information gathering and outline preparation
- List and description of professional writing societies (this might be a good research project for students to do)

RHETORIC
- Rhetorical devices
- Write a theory of operation paper
- Write a process description
- Simple, straightforward writing
- Expository composition
- Exposition; expression of ideas; descriptive writing with case histories
- Summarizing material
- Organization
- Organizational logic in technical documents
- Document organization

MISCELLANEOUS
- Word processor/hands-on (should be ongoing)
- Computer hardware and system paper
- Communications law (if there is such a thing) and Public Relations (examples of areas in which the writer must be particularly sensitive or careful--copyright, trade names, matters of public safety, national security, etc.)
- Publications Management or Production Fundamentals (these would be overviews in which relationships could be shown to enable the writer to set reasonable expectations on his/her work or that of others)
- Technical manual writing I and II
- Principles of technical writing (review)
- Write a technical paper (2 responses)
- Problems in technical writing
- Technical promotional writing

Appendix B

Responses on the Value of Curricula

A. 1. Too much literature. I assume you have no control over that.
2. Would like to see graphics as a required course. I think Graphics is more useful to the average writer than is Computer Programming.
1. Exhibit II (1981-) appears to be a general English curriculum rather than one specifically for Technical Writing. The job market is loaded with generalists.
2. Exhibit III includes as a requirement specific courses in technical writing. As such, this curriculum would prepare a person for a career in technical communications. The internship is a definite plus! Grammar is a must, as is writing, writing, writing. Please consider including courses in graphics and audio visuals.

B. 1. Create 4th program.

C. 1. For junior-senior required courses, include an editing course. It should not be oriented toward technical writing, but may include special considerations for technical writing. I think that an editing experience improves one's writing skills without doing masses of writing oneself. In addition, a writer can get a different viewpoint of his craft which will help when he again acts as a writer.
2. Why not have cultural and ethnic literature as well as British and American literature as a "one course from this area"? For example: Black literature, Russian literature, Greek classics.
3. The "one course from each. . ." is a great idea, it provides a broad background while allowing some specialization or concentration.
4. Speech or Interpersonal communications should be a required course if it isn't already a General Studies course. In my position, I spend up to a half day every day eliciting information from a developer or manager outside my department.
5. The Tech. Scientific Editing course is a good idea! It should deal heavily with the psychological aspects of editing. I think that the Tech. and Scientific Literature course could be successfully integrated into the Tech. Editing course, however. The Jet Propulsion Lab "Levels of Editing" concept should certainly be covered as should the concepts of the editor's role in the writing process.

D. 1. If I understand the new curriculum (Exhibit III) correctly, the student concentrating on technical writing will have a weaker preparation because he must take courses in criticism and American and British literature rather than using these hours for tech writing courses. Although the student may compensate through elective course work, I really see little need or value in pursuing classic literary study when this information has such marginal influence in the work environment. The freshman/sophomore surveys should be enough to round out the individual's background.
2. Exhibit III, on the other hand, presents an impressive program. I particularly like the internship concept. I also feel that elective work in technology and business would be very useful in preparing one for the work environment.

E. 1. New curriculum, Exhibits I, II, and III do not provide sufficient breadth.

F. 1. At the present time I am reviewing an applicant for a position from OSU with Exhibit I credentials. . .and I am very interested. However, if the applicant possessed the credentials of Exhibit II, I would not even review him/her. Exhibit II is not industry related to prepare a student for the real world of technical writing.

2. In contrast, Exhibit III strives to prepare a student for the real world, particularly as an effective communicator and self starter. In addition, I believe that the electives as listed in Exhibit I and III must be maintained, rather than the selected menu from all of English as suggested in Exhibit II.

G. A technical writer must be able to think his way through a problem, simplify it, and communicate it clearly. The study of logic is essential to this process.. If I were designing a major course in technical writing, it would include the following:

1. a minimum of six hours required in math (Some combination of courses that gets the student through algebra and basic geometry or trigonometry is essential. These courses are easy--honest!!!---but so many students come out of high school these days without any math.)
2. your curriculum allows for science electives, but I think you should require a student to pull a minimum number of hours in a general area such as natural sciences, or applied sciences (15 hours in natural sciences could allow the student to take courses in several disciplines). It is not essential to require the student to take advanced courses in any discipline, although a "double major" can be encouraged by the advisor.
3. your proposed curriculum requires too many literature surveys. Study of the literature is essential--after all, we learn to writer through our reading--but to load the student down with both American and British literature is redundant. Besides, I always felt that required literary courses were a way to keep alive a course that should be offered in alternate years--thus comes out my prejudice.
4. in keeping with my now-old-fashioned, liberal-arts beliefs, I further think that students who are required to communicate technical information should be required to take a minimum number of hours in philosophy or logic. Together with studies in math (applied logic), philosophy is another way to train a student to think clearly. If a student can think clearly and reason, then he can cut his way through new material given him on the job.

I applaud the proposed course in technical literature that includes studies of examples of "great" literature; perhaps this could be a substitute for one of the other literature surveys. As an added item, I think one of the courses should concentrate on science-related articles such as appear in Scientific American, Science 80, Omni, Popular Mechanics, etc. Students in the course could interview campus researchers and report on the interview in the school newspaper but they're also found in the English department, psychology department, school of law, etc. Just stay away from the education department--that stuff will rot your brain.)

H. Exhibit I

This curriculum seems to be well balanced. I'm not sure how extensive the Upper Division Electives are, but at least they should give a Writer in our field, some knowledge in Engineering. Please refer to my comments on question five.

Exhibit II

This curriculum seems to emphasize English without enough emphasis on Engineering. Again, our requirements are that a Technical Writer must have some Engineering background. We don't expect him to have a degree in Engineering but he must have some knowledge about Electronics, Hydraulics, etc. When he consults with an Electronic Engineer, he better know Ohm's Law.

Exhibit III

Much the same comments as for Exhibit II. I do like the New Courses to be proposed.

Summary

Further research should be done with other industries (disciplines) to determine their needs. I'm sure you have already thought of this. Where we (Oil) and other similar industries (Aircraft, Farm Equipment, etc) need the fundamentals of Engineering, other disciplines may need more emphasis in other areas such as medicine, computer technology, etc.

I might suggest you communicate with Cal Fullerton (Fullerton, CA) and Wayne University for copies of the requirements. Their experience may add further ideas.

I would be most interested in the results of your survey. I'm sure they would be of interest to anyone in our profession. If I can help in any way, please contact me at any time.

I. Exhibit II

I do not like to see the omission of Beginning Tech Writing and there having to be a choice between the intermediate and advanced tech writing courses. In general, there is little evidence of there being the option of truly concentrating in technical writing.

Exhibit III

I like this curriculum. It provides for a true concentration in technical writing. The new courses being proposed sound promising, especially the editing and research problems courses.

I would like to see greater concentration in specific technical areas from the electives. A graduate from your program would more closely fit my needs if he had a concentration in computer science or in engineering technology. Although it is possible to do so within the proposed curriculum, there isn't any visible incentive for specific technology concentration.

RATIONALE FOR ADDING AN ASSISTANT PROFESSOR WHOSE PRIMARY RESPONSIBILITIES WOULD BE TO TEACH TECHNICAL WRITING

The present technical writing curriculum consists of six courses:

2333 Introduction to Technical Writing and Professional Report Writing

3323 Intermediate Technical Writing and Professional Report Writing

4523 Internship: Technical Writing and Professional Report Writing

4533 Advanced Technical Writing and Professional Report Writing

5283 Special Problems in Teaching English: Teaching Technical and Business Writing

5293 Interdisciplinary Uses of English: Writing for Professional Publication

The table below compares the enrollment in these courses from the 1977-1978 acade year to the 1980-81 academic year:

Enrollment by Course in 1977-1978 and 1980-81 Academic Years

Course	1977-1978	1980-1981	Increases Number	Increases %
2333	26	262	236	907.7
3323	294	508	214	72.8
4523	7	8	1	14.3
4533	0	12	12	
5283	10	8	-2	-20
5293	0	16	16	
	337	814	477	141.54

The number of students majoring or minoring in English with a Technical Writing Option rose from 12 in 1979-1980 to 29 in 1980-1981, a 142% increase. The progra has shown, therefore, considerable growth over the past years in both majors and minors and in offerings of service courses. The prospects are that continued growth may be expected based on

1. More departments recognizing the value of courses in technical writing and requiring their students to take them or suggesting them as electives. (Some of these departments are Accounting; Agricultural Economics; Pre-Vet; Pre-Law; Wildlife; Computer Science; Chemical Engineering; Engineering; Electrical, Petroleum, and Mechanical Technology; Animal Science; and Business.)

2. More students learning about the career opportunities in technical writing.

Both reasons for increasing enrollments result from the professional attitude taken by those teaching the service courses as well as campus contacts by the program director.

The addition of an assistant professor whose responsibilities would be teaching technical writing (both service and advanced courses) would raise the professional level of the instruction (currently, two instructors teach service courses; the rest are taught by graduate students). Such an addition would also provide additional exposure for the program and the Department through Extension programs (including TRW Reda Pump, Bartlesville; American Airlines, Tulsa; Corps of Engineers, Tulsa; Oklahoma City Police Department; Tinker Air Force Base; Osage, Ponca, and Kaw Indian Tribes; and Bureau of Indian Affairs, Ponca City); consulting in business and industry (including American Airlines, Tulsa; Sundstrand Corporatio Rockford, IL; and National Cash Register, Wichita); and participating in state, regional, national, and international conferences.

SAMPLE JOB DESCRIPTION

Under the direction of the Chairman of the English Department, to teach in the technical writing program; to engage in appropriate professional activity, extension and research activity, academic advising, and departmental, college, and university committee work.

QUALIFICATIONS

Candidates must hold a Ph.D. in English and have a clear commitment to the teaching of technical writing; areas of literary interest are secondary. Experience in teaching technical writing at the college or university level is preferred as are publications.

OKLAHOMA STATE UNIVERSITY

MEMORANDUM

DATE 2 April 1981

TO Dr. Gordon Weaver, Chairman

FROM Dr. Thomas L. Warren, Director, Technical Writing Program

SUBJECT Enrollments in Technical Writing Courses, Fall Semester 1976 through Spring Semester 1981

The table below details the enrollments in technical writing courses beginning with the Fall, 1979 semester and concluding with the Spring, 1981 semester.

Number of Students Taking Technical Writing Courses

Year*

Course	1977-1978	1978-1979	Increase Number	Increase %	1979-1980	Increase Number	Increase %	1980-1981	Increase Number	Increase %	Overall Number	Overall %
2333	26	77	51	196.2	134	57	74.03	211	77	57.46	185	711.54
3323	270	406	136	50	446	40	9.85	485	39	8.74	215	79.63
4523	7	2	-5	-71.4	7	5	250	8	1	14.29	1	14.29
4533	0	0	0	0	4	4	--	12	8	200	12	--
5283	10	4	-6	-60	8	4	100	8	0	0	-2	-20
5293	0	8	8	--	7	-1	12.5	16	9	12.86	16	--
Indep. Study	0	3	3	--	9	6	200	13	4	44.44	13	--
TOTAL	313	500	187	59.74	615	115	23	753	138	22.44	440	140.58

* Academic years. Includes Summer, Fall and Spring enrollments.

The figures indicate that the program is increasing rather rapidly (overall growth from 1977 is 140.58% and from 1979, 23%).

I have recently learned that Chemical Engineering will begin requiring their students to take ENGL 3323. I have heard that the entire College of Engineering will follow Chemical Engineering.

Those students electing to elect technical writing as a major or minor have increased from 12 (1979-1980) to 19 (1980-1981), an increase of 58.3%.

Should you have any further questions, please do not hesitate to call me.

TLW:lt

NEW COURSES AT EASTERN WASHINGTON UNIVERSITY

Judith Kaufman
Department of English
Eastern Washington University

The Department of English at Eastern Washington University (EWU) offers two degree programs in technical writing, B.A. with a concentration in Technical Communications and M.A. with a concentration in Technical and Professional Writing. The B.A. program, begun in 1977, includes required courses in technical writing and editing and in several supporting disciplines--computer science, oral communications, and graphic communications. The M.A. program, begun in 1978, permits students to design individualized sequences from a variety of offerings in writing, editing, radio/television, oral communications, graphic communications, business management, and computer science. Both degree programs require an internship in a cooperating business or industry, and both have close ties to other English Department programs. The B.A. in Technical Communications includes a required core of courses in British and American literature, while the M.A. in Technical and Professional Writing is closely related to the Department's programs in journalism and creative writing.

Within the past two years, several new upper division and graduate electives have been added to EWU's offerings in technical and professional writing. Some of these new courses--proposal writing, technical editing, teaching technical writing--cover specialized aspects of technical writing in a traditional way. Others have been developed to explore new areas of research in technical writing, e.g., the

relationship between rhetoric and science. Still others reflect the special relationship of technical writing to the other branches of the EWU English Department. The latter two groups of courses contain new elements which may be of interest to Council members, and I have chosen to discuss three of them--Rhetorical Modes in Technical Writing, General Editing Problems, and Seminar in Technical and Professional Writing--in some detail.

My course on Rhetorical Modes in Technical Writing (Appendix 1) grew out of the renewed interest in classical rhetoric expressed in the technical writing literature and particularly in a special issue of Technical Communication devoted to "Rhetoric and Technical Writing" (Vol. 25, No. 4, 1978). I use this special issue at the beginning of the course to establish a set of topics for further discussion, e.g., the implications of defining technical writing as essentially expository or as essentially persuasive, the rhetorical nature of science, the relationship between ethics and rhetoric. I then briefly treat the modern notion of rhetoric as the four modes of discourse (exposition, narration, description, and argumentation), using Reporting Technical Information by Kenneth W. Houp and Thomas E. Pearsall to illustrate the application of these categories to technical writing. This text fits particularly well into the course because the fourth edition (1980) presents technical writing as essentially persuasive, whereas the earlier editions treated it as essentially expository.

The remainder of the course is devoted to classical rhetoric and its application to technical writing. I introduce the students to the rational, emotional, and ethical modes of appeal, the topics of discovery, and the stylistic devices of classical rhetoric. I illustrate the

applicability of these concepts to technical writing by analyzing several technical and scientific articles. I also use advertisements for the same product but directed at different audiences, e.g., camera ads in photography magazines versus those in Time or Newsweek, to show how the choice of a particular mode of persuasion is dependent on the intended audience. These examples of technical advertising also provide an excellent demonstration of the applicability of rhetorical categories to the analysis of graphic aids. One can compare, for example, the rational appeal of an exploded drawing of a camera lens with the emotional appeal of a photograph taken with that lens.

At the end of the course I ask each student to submit a rhetorical analysis of a piece of technical or scientific writing. I also assign a group writing project in which the students use the techniques and devices of classical rhetoric to create a persuasive brochure. To date I have offered the course in two entirely different settings: off-campus to a group which included working technical writers and on-campus to a group of full-time graduate students. The response of both groups has been excellent. All the students have been pleased to discover in classical rhetoric a systematic body of approaches and devices from which to select those most appropriate to their chosen audiences, purposes, and uses. They all have shown good ability to analyze the rhetorical devices used in examples of technical and scientific writing and to use their knowledge in writing persuasive brochures. The off-campus group, which had close ties with the nuclear industries in the Hanford area, was particularly pleased to be able to identify rhetorical biases in stories about the Three Mile Island nuclear accident. The on-campus group, as might have been expected, was more interested in the

theoretical implications of the debate over the persuasive or expository nature of technical writing.

With its focus on classical rhetoric, Rhetorical Modes in Technical Writing also fits nicely into an area of traditional interest within the English Department at EWU. Edward P.J. Corbett's Classical Rhetoric for the Modern Student, one of the texts in my course, has been for several years the required text in an advanced undergraduate writing course.

Another new course which reflects the relationship between technical writing and traditional English disciplines is General Editing Problems (Appendix 2). I specifically designed this course to appeal not only to technical writing majors but also to creative writers interested in editing literary magazines and to other English majors seeking practical skills. I seek to meet the needs of these three audiences by stressing the similarities among different specialty areas of editing. I start with the two skills that all fields of editing depend upon: proofreading and copyediting. I use The Complete Guide to Editorial Free-lancing by Carol L. O'Neill and Avima Ruder to introduce the students to these skills. I find this to be an excellent text because it emphasizes that neither proofreading nor copyediting can be done mechanically and that both tasks require attentiveness, thought, and respect for the author's intentions. I present technical editing as a special case of copyediting, one in which the author's style may deserve less respect than in general editing but in which the editor must be particularly careful not to alter the author's intended meaning. I give the students a general introduction to printing and production. Finally, I discuss the more creative aspects of editing--the selection of manuscripts and their organization into a whole of a particular kind, whether an issue of a

scientific journal or a book of poetry. For this portion of the course I invite the editors of various campus publications to discuss their selection criteria. I also make use of my own experience in the editorial office of a medical journal.

Students in General Editing Problems are required to complete two major projects: a mid-term project which stresses copyediting and proofreading and a final project which permits each student to work with materials reflecting his/her own special interests. The variety of projects submitted in the two offerings of the course testifies to the diversity of the students' interests. In addition to several rewritten and reorganized brochures and technical manuals, I have received three illustrated collections of poetry, a photo album, a slide show with music, and a movie. I permit the students to submit "artistic" projects because, like their more prosaic brethren, they require editorial decisions as to the selection of elements and their organization into a unified whole.

One reason for the presence of creative writers in my editing class is the fact that EWU's newly instituted Master of Fine Arts in Creative Writing requires its students to take 8-10 credits in a secondary field, such as technical writing. The M.F.A. program also includes a concentration in non-fiction writing. This fact, combined with the absence of a graduate degree program in journalism, has led to an interesting relationship among technical writing, creative writing, and journalism at the graduate level. Journalists wishing to do advanced work may enroll in the M.A. in Technical and Professional Writing, while budding Norman Mailers have a choice between this program and the M.F.A.

The interrelationship among EWU's writing programs at the graduate

level is reflected in the enrollment for this year's Seminar in Technical and Professional Writing. This course, a requirement for the M.A. in Technical and Professional Writing, attracted technical writers, journalists, and novelists in equal numbers. Anticipating this type of enrollment, I chose to make the course an exploration of the role of the writer in America. I asked each student to interview writers in his/her chosen field and either to report the findings or invite the interviewees to class. In order to give the series of interviews a measure of unity, I asked the students to focus on the interviewees' views of writing as a profession and themselves as professionals. As a starting point we used a series of attributes of a profession developed by Eugene Cogan and quoted in an editorial in Technical Communication by Frank R. Smith ("In Pursuit of Professionalism," Technical Communication, Vol. 27, No. 3, 1980, 2-3). Our goal, unlike Cogan's and Smith's, was not to determine whether technical writing is a distinct profession, but to try to find some unifying elements which would allow us to define a general profession of writer. This general profession would include all working writers--technical, journalistic, and creative.

Our interviews with practicing journalists, novelists, and technical writers did yield certain unifying elements. We found that most of the professionals shared a common commitment to and involvement in their writing and a common interest in the details of life around them. Perhaps more importantly, we found that students of these various kinds of writing could share their interests in and insecurities about becoming writers and could provide what one of my students called "supportive feedback" to one another. We are currently seeking to provide a more permanent forum for this supportive feedback through the creation of a

quarterly newsletter to be addressed to professional writers of all persuasions in the Spokane area. Creating the newsletter is the class project for another one of my new courses, the Editing Workshop. Because of time limitations I have chosen not to discuss that course today. If the newsletter is successful, the course will soon be able to speak for itself.

As the final assignment in the Seminar in Technical and Professional Writing, I asked the students to stop reporting the views of others and instead to speak for themselves. I asked each of them to present and defend a short position paper on some aspect of the writing profession. I would like to close today by presenting my own position on one aspect of the profession. My experiences in teaching writing classes to mixed audiences have convinced me that technical writing does fit well into the traditional English curriculum. These experiences have also reinforced my belief that students entering technical writing from other disciplines should be asked (as they are when entering our M.A. program) to take classes in English literature. Writing, whether technical or creative, requires an ear for style and an eye for wholeness. More importantly, it requires the ability to distinguish the significant detail from the insignificant one. Nowhere can the ability to recognize style, wholeness, and significance be better taught than in a literature course. I might add that my view is shared by at least one of my graduate students. This student, a very intelligent woman with training in the history of medicine and various social sciences, complained to me that her previous training had stressed the collection of vast quantities of evidence, whereas I kept asking for the selection of only significant details. At last word, she was planning to take Introduction to Poetry.

APPENDIX 1

RHETORICAL MODES IN TECHNICAL WRITING

Week	Topic	Assignment
1	Introduction	
2	Rhetoric and Technical Writing	Technical Communication, Vol. 25, No. 4, 1978
3	Introduction to Classical Rhetoric	Corbett, pp. 3-44; Stephen M. Halloran, "Classical Rhetoric for the Engineering Student," J. Tech. Writing & Commun., Vol. 1, No. 1, pp. 17-24, 1971
4	Modes of Persuasion	Corbett, pp. 45-107
5	The Common Topics	Corbett, pp. 107-145
6	Stylistic Devices and Graphics	Corbett, pp. 414-495; Merrill D. Whitburn, "Personality in Scientific and Technical Writing," J. Tech. Writing & Commun., Vol. 6, No. 4, pp. 299-306, 1976; Whitburn et al., "The Plain Style in Scientific and Technical Writing," J. Tech. Writing & Commun., Vol. 8, No. 4, pp. 349-358, 1978
7	Applications: Technical Advertising	Handouts
8	Applications: Technical Articles	Selections from Bowen and Mazzeo
9	Continue Technical Articles	
10	Group Project: Persuasive Brochure	
11	Continue Group Project	Final paper due (analysis of role of rhetoric in technical writing)

Texts: Edward P.J. Corbett, Classical Rhetoric for the Modern Student, 2nd Edition, Oxford, 1971

M.E. Bowen and J.A. Mazzeo, eds., Writing About Science, Oxford, 1979

APPENDIX 2

GENERAL EDITING PROBLEMS

Week	Topic	Assignment
1	Principles of Editing	
2	Proofreading	O'Neill & Ruder, pp. 88-127; Pocket Pal, pp. 42-45
3	Copyediting	O'Neill & Ruder, pp. 33-87
4	Proofreading and Copyediting Practice	Handouts
5	Layout and Typography	Root, pp. 89-114, 138-142, 154-165, 176-188; White, pp. 1-95, 172-183
6	Layout and Typography	Pocket Pal
7	Scientific and Technical Editing	Mid-Term Project Due
8	Literary Editing Guests: Bill O'Daly, Editor, Willow Springs; Jim Bradford, Editor, Copula	
9	Indexing/Scholarly Editing Guest: Howard Leichman, Editor, British Studies Monitor	O'Neill & Ruder, pp. 128-167
10	Freelancing	O'Neill & Ruder, pp. 1-32, 168-185
11	Conclusion	Final project due

Texts: Carol L. O'Neill and Avima Ruder, The Complete Guide to Editorial Free-lancing, revised ed., Barnes & Noble, 1979

Pocket Pal, 12th ed., International Paper Company, 1979

Root, Robert, Modern Magazine Editing, W.C. Brown Co., 1966

White, Jan V., Editing by Design, R.R. Bowker, 1974

WRITING FOR SPECIAL PURPOSES:

UPDATING THE PROGRAM AT THE UNIVERSITY OF MINNESOTA

Victoria M. Winkler
Director of Technical Communication
Department of Rhetoric
University of Minnesota
St. Paul, MN 55108

Until Spring 1980, the Writing and Editing stem of the Technical Communication major at the University of Minnesota was the weakest of the three competency areas that technical communication majors are required to take. To expand our offerings in the Writing and Editing stem, the Rhetoric Department proposed an advanced two-credit modular course (Rhet 5571) entitled Writing for Special Purposes. The subtitle and content of this modular course would change from quarter to quarter to focus on different formats and genres such as computer documentation, procedure and policy manuals, grant and proposal writing, newsletters, and questionnaires and surveys.

Rhetoric 5571 Writing for Special Purposes

The two modular courses that have been offered during the 1980-81 school year include The Grant Proposal and The Procedures and Policies Manual (attachments A and B). Other possible topics for modular courses include a wide variety of writing formats and genres:

1. Computer documentation
2. Information Mapping
3. Brochures
4. Newsletters
5. Public Policy Writing
6. In-house Style Guides
7. Business Correspondence
8. Questionnaires and Surveys
9. Personnel Reports and Records
10. Public Service Announcements
11. Marketing and Advertising
12. Abstracts, Summaries and Precis

Advantages of Modular Writing Courses

Since the current writing courses cannot respond to all of our majors' needs the two credit modular courses have been designed to meet the students' special needs while broadening the range of their writing experience. The two credit courses run for five weeks, meeting for one hour and forty-five minutes per week. When all of the proposed modular courses pass the curriculum committee, students will be able to elect

two modular courses each quarter.

In addition to expanding our writing offerings and broadening the range of the students' writing experience, the two hour modular courses have two other advantages. (1) They enabled the Rhetoric department to make more efficient use of the current staff without resorting to overloads. (2) They gave us more control over the Writing and Editing stem by offering more writing courses through Rhetoric rather than recommending that students supplement our offerings with writing courses from Agricultural Journalism, the General College, the English Department or Journalism.

The faculty who are teaching the modular courses have adopted a process approach to teaching writing. Their aim is to provide a problem-solving orientation to Writing for Special Purposes which enables students to model the process. In most writing courses we tend to move too quickly to producing a product rather than concentrating on document design, audience analysis and rhetorical purpose. The structure and scope of these courses help both faculty and students to get over their product preoccupation by placing more emphasis on rhetorical invention or the prewriting and planning stages of the composing process. The five-week format easily lends itself to bringing in consultants from industry who are producing specialized documents. Therefore, the students are exposed to the production end of the process and to the role played by publications management.

Disadvantages of Modular Writing Courses

Although the advantages far outweigh the disadvantages, there is a thornier side to two-hour modular courses. Because of the five-week time constraints and the lead time necessary to gather information, students find it difficult to complete the course in five weeks. In many cases the courses have become tutorials toward the end. Since we have been dealing with small numbers (7-12 students per section), this has not posed a serious problem. However, as our offerings expand, the tutorials could become problematic.

In addition, less mature students who are product-oriented have difficulty recognizing the importance of the prewriting and planning stages of document design and production. The faculty have the added burden of selling the process approach to writing while allaying the students' anxiety about not having a finished product in five weeks. The students are much more comfortable with specified formats which enable them to immediately begin "plugging and chugging" information into a format to produce a product. These courses, on the other hand, require reorienting the students' thinking about solving communication and document design problems in business, government and industry by examining the entire composing process from prewriting through production.

In summary, the advantages of two credit writing modules far outweigh the disadvantages. The modular courses enable the Rhetoric Department to stress a problem-solving, process-oriented approach to writing. They permit us to expand our offerings and broaden students' writing experiences without requiring either additional staff or overloads. In sum, they provide a measure of flexibility and meet special writing needs in the face of steady-state department budgets, faculty retrenchment and staff losses by attrition.

Note: Attachment C updates the lists of required and recommended courses for students majoring in Technical Communication at the University of Minnesota.

ATTACHMENT A

Rhetoric 5571 * Monday 1400 to 1545 * 224 Haecker Hall * Prof. E S. Wright

Course Title: Writing for Special Purposes: the Grant Proposal (2 cr.)

Course Description: Writing the grant proposal, including establishing credibility, problem statement, program objectives, plan of action, evaluation, budget presentations and proposal summary. Designed to serve both real and hypothetical situations.

Contact Hours Per Week: two

Student Performance Objectives:

Students will:

1. Investigate funding source and secure appropriate announcements and guidelines as necessary.
2. Write an introduction establishing the credibility of the applicant.
3. Draft a problem statement
4. Set forth program objectives
5. Describe the plan of action.
6. Establish a system for evaluating the program.
7. Present the program budget
8. Write the proposal summary
9. Submit the proposal to the class for review and evaluation.

Course Outline:

Week 1 - Selection of funding source, research into program requirements and applicant's capabilities.

Week 2 - Writing the proposal: introduction, problem statement and program objectives.

Week 3 - Writing the proposal: plan of action, and evaluation system

Week 4 - Writing the proposal: budget presentation and proposal summary.

Week 5 - Class review of proposals, final editing.

Evaluation Procedures

Creativity in conceiving program and selecting appropriate granting agency	-	10
Class participation	-	10
Documentation of the proposal	-	20
Quality of the final proposal	-	60

Text material: Kiritz, Norton J. Program Planning and Proposal Writing. Los Angeles: The Grantsmanship Center, 1979.

ATTACHMENT B

Rhetoric 5571 Writing for Special Purposes: The Procedures and Policies Manual

2 credits Mondays, 10:00 - 11:45am HH 224

Dr. Richard Ferguson HH 207
Hours: 9-10 Mon.
9-11 Wed. and Fri.
Phones: Office 376-7446
Home 644-1946

Course Description: Problem analysis, process management, gathering information, drafting procedures/policies, verification, constructing the finished manual

Student Performance Objectives: Students completing this course should be able to:

1. Identify and analyze a specific situation requiring codification of procedures and/or policies;
2. Develop a plan to guide management of the codification process (information gathering, writing, verification);
3. Demonstrate an ability to gather information about procedures and policies by conducting interviews, making observations, or doing other necessary research;
4. Demonstrate an ability to write procedures and policies and to establish their validity through a verification process established in the management plan;
5. Demonstrate an ability to design and to complete a procedures and/or policies manual that clearly and accurately conveys procedural and policy information to the designated audience.

Course Outline:

Week 1 (March 30)	Procedures and Policies Manuals: Identifying situations, problems, and audiences
Week 2 (April 6)	Developing a management plan
Week 3 (April 13)	Research, drafting and verification Preliminary oral reports
Week 4 (April 20)	Writing and Graphics
Week 5 (April 27)	Complete procedures and policies projects Written and oral presentations

Evaluation Criteria:

10% Class participation and promptness in meeting deadlines

30% Creativity in identifying a problem, defining it, and establishing a workable management plan. Effective verification of procedures and policies.

60% Quality of the completed project and the oral presentation

ATTACHMENT C

Students majoring in Technical Communication at the University of Minnesota must complete a total of 70 credit hours in addition to the 16 required credit hours in Rhetoric (Communications I and II, Public Speaking and either Professional Writing or Scientific and Technical Writing). Within the 70 credit hours, majors must meet minimum requirements in three competency areas: Writing and Editing (14 credits minimum), Oral Communication (8 credits minimum) and Visual Communication (7 credits minimum).

The required courses and many recommended courses in these competency areas are listed on the following pages.

Writing and Editing 14 credits minimum
Required Course

AgJo 3159	4	Publications Editing

Recommended Courses

AgJo 3530	4	Publicity
AgJo 5561	4	Writing for Publication
Engl 1027	4	Intermediate Composition
Rhet 3551	4	Professional Writing
Rhet 5571	2	Writing for Special Purposes
GC 1425	4	Business Correspondence

Oral Communication 8 credits minimum
Required Courses

Rhet 5257	4	Scientific and Technical Presentations
Rhet 5258	4	Interviewing: Dynamics of Face-to-Face Communication

Recommended Courses

Rhet 1221	3	An Introduction to Interpersonal Communication
Rhet 1251	3	Effective Listening
Rhet 3254	4	Advanced Public Speaking
Rhet 3266	4	Discussion Methods
Rhet 3270	1-5	Speech: Special Problems
Spch 3201	4	Introduction to Broadcasting Production
Spch 3203	4	Radio Production
Spch 5411	4	Small Group Communication
Spch 5431	4	Process of Persuasion

Visual Communication 7 credits minimum
No Required Courses

Recommended Courses

AgEn 1010	4	Technical Drawing
AgJo 3230	4	Basic Typography
Dsgn 1521	4	Color, Design
Dsgn 1523	4	Visual Presentation
Dsgn 1525	4	Two-Dimensional Design
Rhet 3166	4	Scientific and Technical Graphics
Rhet 3176	4	Use of Scientific and Technical Film

In addition to these recommended courses, there are numerous courses in the University in art, cinematography, TV production, and photography that would satisfy this requirement.

Organizational Communication 7 credits minimum
No Required Courses

Recommended Courses

Rhet 5150	4	Direction of Training in Business and Service Organizations
Rhet 5165	4	Studies in Organizational Communication, Conflict and Change
Rhet 5170	4	Managerial Communication
Rhet 5400	4	Dissemination and Utilization of Information
Rhet 5600	4	Transfer of Technology
Spch 3111	4	Leadership Communication
Spch 5412	4	Group and Organizational Communication
Spch 5414	4	Authority and Power in Task-Oriented Communication

Communication Theory and Research 7 credits minimum
Required Course

Rhet 1220	4	Principles of Human Communication

Recommended Courses

Clas 3045	2	Basic Program in Technical Terminology and Word Study
Engl 3851	4	The English Language
Engl 5815	4	History of English Language
Engl 5831	4	American English
Engl 5851	4	Structure of Modern English
Ling 3001	4	Introduction to Linguistics
Ling 3601	4	Introduction to Historical Linguistics
Rhet 3700	4	Rhetorical Theory: Persuasion and the Literature of Science
Rhet 5500	4	Research in Communication Strategies
Spch 5403	4	Theory Construction and Analysis in Communication
Spch 5421	4	Quantitative Research in Communication
Spch 5611	4	Classical Rhetoric
Stat 5021	5	Statistical Analysis
Stat 5022	5	Statistical Analysis II

Philosophy and History of Science and Technology 7 credits minimum
Required Course

HSci 1813	4	Introduction to History of Science: Modern Science

Recommended Courses

Phil 5601	5	Philosophy of Science
Phil 5615	5	Minds, Bodies, and Machines

Any course from History of Science and Technology (HSci) may be used to fill the recommended portion of this requirement.

Internship 4 credits minimum

Rhet 5180 4-6 Internship in Technical Communication

F. TECHNICAL ELECTIVES 20 credits minimum

Through the selection of your technical electives, you are expected to develop enough competency in a science, social science, or engineering discipline to acquire an understanding of the goals and methods of science and technology. You may also use this portion of the program to prepare for employment in some specific area such as computers or foods. Technical electives will be chosen with the aid of your adviser and can be interdisciplinary as well as intradisciplinary. You may choose from such areas as agriculture, computer science, forestry, the health sciences, home economics, and the natural and physical sciences. At least 8 credits must be 3XXX level or higher.

G. COMPLETED CREDITS MUST EQUAL 190 MINIMUM

Electives are used to complete the 190 credits required for graduation with the bachelor of science degree.

A. COMMUNICATION, LANGUAGE & SYMBOLIC SYSTEMS 25 credits minimum:

Course No.	Credits	Name of Course
CSci 1100	2	Introduction to Fortran Programming
CSci 1101	2	Introduction to Fortran Programming II
Math 1111	5	College Algebra, Analytic Geometry
Rhet 1101	4	Communication I
Rhet 1102	4	Communication II
Rhet 1222	4	Public Speaking
Rhet 3562	4	Scientific and Technical Writing

B. PHYSICAL, BIOLOGICAL SCIENCES 18 credits minimum:
To be selected from the following list.

BioC 1301	5	Elementary Biochemistry
BioC 1302/1303	5	Elementary Biochemistry II and Lab
Biol 1011	5	General Biology
Biol 1103	5	General Botany
Biol 1106	5	General Zoology
Bot 1009	4	Minnesota Plant Life
Bot 1012	4	Plants Useful to Man
Chem 1004	5	General Principles of Chemistry
Chem 1005	5	General Principles of Chemistry
EBB 3004	4	Fundamentals of Ecology
GCB 3022	4	Human Genetics, Social Affairs
Geo 1001	5	Physical Geology
Geo 1002	5	Historical Geology
Geo 1111	5	Introduction to Physical Geology
MicB 3103	5	General Microbiology
Phsl 1002	4	Human Physiology
Phys 1031/1035	4/1	Introductory Physics, Measurement, Application & Lab
Phys 1032/1036	4/1	Introductory Physics, Measurement, Application & Lab

C. INDIVIDUAL AND SOCIETY 14 credits minimum:

To be selected from Category C list under All-College Requirements in College of Agriculture Bulletin. (See Appendix A to this Guide.)

D. LITERATURE, HUMANITIES, AND FINE ARTS 16 credits minimum:

To be selected from Category D list under All-College Requirements in College of Agriculture Bulletin. (See Appendix A to this Guide.)

E. PROFESSIONAL COURSES IN THE MAJOR 70 credits minimum:

Students majoring in Technical Communication must complete a total of 70 credits in Category E with a minimum number in each competency area as listed below. Required courses in certain competency areas are identified. Courses identified as Recommended may be taken with the approval of the student's adviser. Courses not listed may be taken only with the approval of the Coordinator of Technical Communication or, in his or her absence, the Department Head.

THE TECHNICAL COMPONENT OF DEGREE PROGRAMS

William O. Coggin
Coordinator -- Technical Writing Programs
Department of English
Bowling Green State University

When I returned the questionnaire which solicited topics for this year's program, I marked "The Technical Component of Degree Programs" because I now have a proposal for an undergraduate program prepared to go through necessary curriculum committees and I thought I could gain enough information about technical components here to help me revise the curriculum as necessary. Little did I know that I would end by giving a formal presentation on the topic. However, the occasion has turned out well; I learned much during my research for this paper and I know I will learn more from our discussion following my presentation. I do want to preface my remarks, however, with the disclaimer that the technical communication curriculum I offer today, particularly the technical component of that curriculum, I present to you to invite discussion and comment. I do not intend my remarks to be prescriptive.

There are three primary parts to my discussion. For those of you who might not be aware of the history of the controversy about how strong the technical component of a technical communication program should be, I am including some of that history. To bring history up to date, I'll include results of some of our recent research at Bowling Green State University on what business and industry are currently looking for in the technical preparation of technical communicators. Following that discussion, I'll present a curriculum in technical communication which

I have written--or, I should say, rewritten since the bulk of the work was done by Martha Eckman, the Coordinator of Technical Writing Programs at Bowling Green before I arrived. After that, I'll respond to questions and, I hope, join discussion in which we can learn from each other's experience in incorporating technical components into our curricula.

History of the Discussion of Technical Components

More than a decade ago, John Walter surveyed 160 industries to find out what qualifications they believed a technical communicator should have. Of the industries surveyed, 49 responded that they preferred people with technical background plus writing ability, in addition to knowledge and experience in the craft of writing. Forty-one others preferred that technical communicators have a technical background plus writing ability:

A. Technical background plus writing ability. . . 41

B. Knowledge and experience in the craft of writing 7

C. Both of the above. 49

The point of his statistics: industries wanted scientists and technicians who could write rather than writers who had a basic knowledge of science and technology. This information led to one of Walter's primary conclusions, "...a long term controvery still exists; whether it is easier to make a writer of an engineer or a competent technical man of a writer."[1]

During the decade of the 70's, most technical communication programs compromised the point in the only way they realistically could: they required technical communication students to include an emphasis in some area of science or technology.[2] These programs are good and they

respond to the needs that business and industry set forth for technical communicators: their graduates have both the communication experience and technical knowledge. Witness, for example, such people as Russ Bundy, Manager of Marketing Publications at Fisher Controls Company, who stated in his paper, "Preparing for a Technical Writing Career," that technical writers need not only extensive experience in writing, editing, layout, and production, but also the "equivalent of a bachelor's degree in engineering. . . .because we (Fisher Controls Company) expect the writer to understand the subject thoroughly before writing about it."[3] Richard Wiegand reinforces the conclusion in responding to the question of what educators can do to prepare technical writers. He says, in part, "Give the student science courses in a chosen field so that he knows more than just the basics."[4]

The responses from technical communicators support these contentions of employers that technical communication programs need strong technical components. Jay Gould, in a 1975 survey of graduates of RPI's master's program, discovered that 50% of those responding believed that RPI should change the program to include a science or engineering requirement. Gould also commented, "The technical writers were inclined to respond 'yes' together with some explanation and those in other occupations to answer 'no' without explanation."[5] The 1977 STC survey of its members elicited the same emphasis on the technical component of the technical communication degree program. Responding to the question "What educational experience do you believe is more important for an entry level technical communicator?" 533 (60.9%) of the 886 respondents said science/engineering and written/graphic communications are equally important. More important, however, the respondents helped to establish the vital areas of technical training

for the technical communication student. They answered that the technical component should include, in the following order: engineering; mathematics, including computer science; business; physical and natural sciences; humanities. (See Table I, below.)[6]

Analysis of Current Needs in the Technical Component

The preceding statistics are all from 4 to 15 years old, and because technology is in such a constant state of flux they need to be consistently updated to help us keep the technical components of our programs consistent with current need. To buttress the conclusions about what technical components degree programs should have requires staying in contact with the employers to see what kinds of technical and communication knowledge are most in demand. To establish those demands, and to see what the job opportunities in communications-related fields are, a BGSU graduate student, Thomas Buehrer, conducted a survey from the newspapers of 6 major cities in Ohio and also Detroit, Michigan. From October 20 through December 7, 1980, he surveyed the Sunday classified ads from the Akron Beacon-Journal, the Cincinnati Enquirer, the Cleveland Plain Dealer, the Columbus Dispatch, the Dayton Daily Herald, the Detroit Free Press, the Detroit News, and the Toledo Blade.[7] He hoped to provide 2 kinds of information: whether there are jobs for technical communicators in Ohio and southern Michigan and, if so, what kinds of experiences technical communicators need to have to get the jobs, i.e., what should comprise the technical component of a degree program.

Over the period of the survey, Mr. Buehrer discovered 121 separate advertisements for communicators, but some asked for more than one person so there were actually about 131 advertised positions in these seven cities. Not all the jobs were for technical communicators, but all emphasized

communication experience and the data are helpful in trying to decide what kinds of technical components should be included in a technical communication degree program. (See Table II, below.)

These statistics reveal 4 primary areas, other than communication areas, which are particularly in demand: specifications, machine/electronics, data processing/computer science, and advertising. As I will explain later, all these areas can and should be included as parts of the technical components of degree programs.

Business and industry's contribution to the question of what technical components of degree programs should be is represented by the newspaper ads. Furthermore, in the Spring-Summer Career Opportunity Index, Midwestern Employers: Professional Edition, 12 companies are indexed as seeking technical writers and editors.[8] Yet, a look at the job descriptions for these companies reveals only 2 who specifically call for technical writers. The other 10 seek chemical, mechanical, electrical, and industrial engineers, among others. They advertise for technical writers because they include among the qualifications for their engineers "strong written and oral communication skills," or because they apparently find technical writing synonymous with information systems/data processing, computer science, etc.

Hence, "technical writer" still appears to be synonymous for many businesses and industries with the technical professional who has a special facility for communication or who would prefer to be involved in communication rather than in the pure science or technology, or who must do both. And, for those schools who attract into their technical communication programs a majority of students who have this dual interest, the technical component of degree programs should probably remain as simple as requiring the

students to take a minor in a particular area of science or technology.

However, for many of us, such students are a rarity if, indeed, they exist at all. Most of our students are those who have a primary desire to become writers, believe they have little facility for technology or science, have no desire to become engineers, scientists, computer scientists, or technologists, and, therefore, do not particularly want strong components in science or technology. We know, however, that we have an obligation to the students to prepare them to work in technical fields, and, if we want business and industry to continue to support our programs, we know we must include a technical component in our programs which allows our students to become desirable applicants and productive employees.

Proposed Technical Component of a Degree Program

Today, I want to discuss and elicit your comments on a proposed technical communication curriculum which attempts to respond to the needs of business and industry as well as to the needs of students, especially those students who have no real desire to limit themselves to one technical field. And, although my paper, according to the title, is limited to "The Technical Component of Degree Programs," I want to talk briefly about the communication area as well. I can justify this extension because communication has become so highly mechanized that it too is a technology and thus a technical component of the degree program.

The proposed curriculum has essentially 5 parts. (See Table III, below.) The first part, involving writing/editing, media and mass communication, and graphics, corresponds closely to the communication core current in most technical communication curricula. It involves the writing, editing, audiovisual, film, and graphic components of most programs. The

only difference I would suggest here is the emphasis which is placed on the new media--the use of microwaves, teleconferencing, videodiscing and computergraphics. The communicator must be learning about the new media, for in a very few years primary communication will be through these media. To learn enough to use them effectively presupposes a technical knowledge of them which is making the communication core of technical communication curricula a technical component. The communication student needs to know the principles behind these media, as well as how, when and where to use them.

The second component of the degree program should prepare the student to enter business or industry with an understanding of the kinds of organizations with which they will be involved. Such a knowledge will help students in understanding how management operates, how production is controlled and coordinated, and how they can develop themselves as effective managers. None of us wants to believe we are training our people for deadend jobs. We want them trained to become managers, to be limited in their achievements only by their desire, not by their training. In addition, courses in organizational theory and behavior and management help students understand audiences and the complexities of communications networks with organizations.

The third part of the curriculum begins to heavily involve the students in purely technical areas. This technical component, as I envision it, involves the students in studies of electronics, hydraulics, mechanics, automation, and even in cybernetics--systems logic. The studies in electronics, hydraulics and mechanics are currently areas which are especially in demand of technical writers. Cybernetics, as I use the term, may be specifically described as it is taught at

Bowling Green, and perhaps could also be described as general systems theory, but the point is that the students need a technical component which helps them learn electronics theory and a theoretical basis for the computer science component described below, without having to take a number of courses. With the basic knowledge provided by such courses as I describe, students can enter various fields without too much difficulty.

The fourth part of the degree curriculum really can be required in its entirety or can be adjusted to fit the needs of particular students. Regardless of which scientific or technical track a student chooses, that person needs to know something about data processing and the practical uses of computer technology. For those students interested in working in some area of business, the study of management information systems is a must. Such study should provide the students with knowledge of data processing, logical analysis, some computer programming, and some knowledge of the effects of computers in business. These students also should know something about the computer industry, enough to apply this knowledge to their particular communication jobs. And, the approach is good for students who intend to take a computer science track, for in some ways it humanizes the computer, and gives communicators in the area of computer technology an understanding of how others will use what they write, that is, how computers are used in business and industrial environments.

Because the communication industry is so heavily computerized and because computer builders/sellers, designers and buyers are some of the largest markets for technical writing students, all students in a technical communication program need to have a basic knowledge of computer technology.

The best requirement to insure a student at least an interview with a computer firm is three courses--basic, fortran, and cobal. Most people in the industry with whom I have been in contact say that a person can become a technical writer for them with a minimum of 2 computer science courses. Those students who do not intend to work for a company in the computer industry will have the knowledge, upon completion of this part of the program, to adapt themselves to computerized information storage and retrieval and to use the computer for writing and text editing.

The last part of the curriculum, also part of the technical component, provides the student with a minor area of emphasis. It corresponds to many other technical communication programs. Although I do not suggest that technical communication programs should stop training communicators and begin to prepare technicians who have the ability to communicate, I do advocate technical communication programs which require students to get a knowledge of at least one, but preferably two, technical areas beyond the basic knowledge described above. At minimum, I would suggest inclusion of the following areas, most of which are emphasized by the 1977 STC survey of technical communicators and are supported by the various employment publications: engineering (almost any kind), physics, computer science, chemistry, industrial technology, environmental studies, geology, biology, foreign languages and psychology.

The technology or science track should, however, remain flexible. I would suggest, for example, that students be allowed to take courses in as many as 3 of the areas, if the curricula are such that they allow students to take at least 2 courses beyond the basics in each. As well, a combination of the technical areas might provide opportunity for students

to get into related fields, for example medical writing, for which none of the single areas properly prepares the student.

Advantages of the Proposed Technical Component

I believe the technical component of the technical communication program as I have outlined it here has several noteworthy advantages over current programs:

1. It treats communication as a technology. Because of the rapid advances in communication media, the communicator must know the technology of suphisticated computer, word processing, text editing, and typesetting equipment. As well, the communicator must know the technology of such new processes as videodiscing. I do not believe communicators should be technicians, yet they should have a firm knowledge of the operations, the capabilities, and the limitations of new communication systems.

2. The proposed technical component also helps prepare students for management positions, as well as helping them realize the place of communcations in corporate and industrial structures. Students learn how organizations work and how to manage data and people in large and complex environments.

3. Students are introduced to the field of electronics. For some, the introduction helps them prepare for jobs using electronic media; for others, it is an introduction into an area about which they may find themselves writing; while for others, it is a complementary study to their computer science.

4. The technology and science tracks allow students to emphasize 2 or 3 technical/scientific areas if they wish flexibility in the job search; or it allows them to emphasize one area if they have a particular field in which they want to work.

5. For institutions which are not technical schools, such a grouping of technical components is still realistic. Most universities teach at least a few couses in the areas suggested here. Even those without technical or scientific orientations teach some of the basic courses. Thus, with the kind of technical component described, these schools can still provide excellent training for the student who wants to become a technical communicator.

Conclusion

Technical communication programs must, realistically, include a strong technical component. At the same time, directors of programs must realize that the students they are training probably have no real desire to become expert in one technical or scientific area. For this reason, the schools need to provide a technical component which helps give the students a range of opportunities for finding employment. The program should help its graduates provide for advancement in their fields and should prepare them for work in a constantly changing area--communication. With the range of training provided by such a technical component as I suggest here, students will be qualified to seek jobs in several areas, including those primarily scientific as well as those in marketing or advertising.

TABLE I

Science/Technology and Communication Components of a Degree Program

Questions 10-14: What types of noncommunication-oriented course areas do degree in technical communication should include? (There were 26 specific which group generally into the following five types.)

Type	Number Responding	Pe of
ENGINEERING	294	3
MATHEMATICS (INCLUDING COMPUTER SCIENCE)	176	2
BUSINESS	136	1
PHYSICAL AND NATURAL SCIENCES	123	1
HUMANITIES	50	

Questions 16-20: Which of the following more specific communication course believe a degree in technical communication should include?

Area	Number Responding	Pe of
EDITING	183	2
COMMUNICATION RESEARCH METHODS	94	1
TECHNICAL DRAWING	92	1
BUSINESS COMMUNICATIONS	74	
PRINTING, BINDERY, PLATE-MAKING, DISTRIBUTION	70	
TECHNICAL/SCIENCE WRITING	65	

TABLE II

KINDS OF EXPERIENCE SOUGHT FOR COMMUNICATIONS POSITIONS IN EIGHT MIDWESTERN NEWSPAPERS

EXPERIENCE PREFERRED	NUMBER
SPECIFICATIONS	15
DATA PROCESSING	5
JOURNALISM	10
WRITING/EDITING/ PHOTOGRAPHY/GRAPICS	16
PRINT/PUBLISHING	12
MACHINE/ELECTRONIC	35
TRAINING	4
ADVERTISING	22
COMPUTER SCIENCE	11
BIOMEDICAL	2

TABLE III

COMPONENTS--BACHELOR'S OF TECHNICAL COMMUNICATION

I. COMMUNICATION COMPONENT, INCLUDING MEDIA & MASS COMMUNICATIONS, & GRAPHICS

TECHNICAL WRITING AND EDITING
JOURNALISM
RADIO, T.V., FILM, AUDIO-VISUALS, SLIDE, PHOTOGRAPHY, PRINT
ORGANIZATIONAL COMMUNICATION
SPEECH
DESIGN ANALYSIS
TECHNICAL ILLUSTRATION
ADVERTISING
COPY, LAYOUT, PRODUCTION

II. MANAGEMENT

OPERATIONS
COORDINATION AND CONTROL OF PRODUCTION
MANAGEMENT DEVELOPMENT
HUMAN RELATIONS (MOTIVATION)
ORGANIZATIONAL THEORY
ORGANIZATIONAL BEHAVIOR

III. ELECTRONICS

ANALOG & DIGITAL ELECTRONICS
SYSTEMS LOGIC
MECHANIZATION
AUTOMATED SYSTEMS
BLUEPRINTS AND SCHEMATICS
CYBERNETICS

IV. MANAGEMENT INFORMATION SYSTEMS/COMPUTER SCIENCE

MIS: DATA PROCESSING, LOGICAL ANALYSIS, COMPUTER PROGRAMMING, COMPUTERS IN BUSINESS

CS: BASIC, COBOL, FORTRAN

V. TECHNOLOGY/SCIENCE TRACK

ENGINNERING
MATHEMATICS
PHYSICS
COMPUTER SCIENCE
BIOLOGY
PSYCHOLOGY
CHEMISTRY
INDUSTRIAL TECHNOLOGY
ENVIRONMENTAL STUDIES
GEOLOGY
FOREIGN LANGUAGES

References

1. John A. Walter. "Education for Technical Writers," reprint from Technical Communication, n.d.

2. Directory of Colleges and Universities Granting Degrees in Technical Communication, Compiled at the request of the Council for Programs in Technical and Scientific Communication, March, 1978.

3. Presented at All-Iowa Conference of Teachers of Business Communication, November 7, 1975.

4. "The Effectiveness of Preparation of Professional Technical Communicators," The Technical Writing Teacher, 6, No.2 (Winter, 1979): 71-73.

5. "Evaluation of a Master's Program in Technical Communication--Results of a Questionnaire," Journal of Technical Writing and Communication, 7, No. 1 (1977): 55-73.

6. Bill Coggin. "Better Educational Programs for Students of Technical Communication," Technical Communication, 27, No. 2 (1980): 13-17. Table I here appears in Technical Communication as "Table 6: Types of Preparation--Specific," p. 17.

7. Unpublished report for Technical Writing 573, Bowling Green State University, 1981.

8. Career Research Systems, Inc. (Huntington Beach, California).

PROPOSED MASTER'S IN TECHNICAL WRITING AT OREGON STATE UNIVERSITY

Simon S. Johnson
Coordinator of Technical Writing
English Department
Oregon State University

I started teaching at Oregon State University in 1971. At that time, the English Department offered only a few sections each term of technical report writing at the junior-senior level with about 25 students per section, and a few courses of business letter writing for sophomores. Over the past ten years I have watched enrollments increase as students and faculty of other divisions within the university realized the value of technical writing until currently the English department offers about 30 sections each term of technical report writing and about 10 each term of the course now called business writing.

The English department at Oregon State is part of the College of Liberal Arts, a division within the university that in the past has offered no advanced degrees, despite the fact that most divisions within the university do offer such degrees, and some, such as the School of Oceanography, offer only advanced degrees. Part of the reason the College of Liberal Arts has not offered advanced degree programs is a decision made by the Oregon State Board of Higher Education and the Oregon State legislature during the depression to avoid duplicating programs: advanced degrees in liberal arts would be offered at the University of Oregon in Eugene; advanced degrees in science would be offered at Oregon State in Corvallis. As a result of this decision, there are no graduate assistants to help teach large enrollment classes in the English department. Consequently, the English department has to hire full-time personnel to staff these courses. Finding competent staff has been difficult.

During the same ten-year period, I have received increasing numbers of requests from industry for graduates who could take over positions in technical writing. Frequently, I have recommended technical writing instructors whose fixed-term appointments had expired. Some of these instructors have gone from teaching into jobs that doubled their salaries, which of course makes the staffing problems worse.

About eight years ago, I realized that one solution for finding good teachers of technical writing, and for providing graduates for industry, would be to train them at the university. To provide graduates who could teach at the college level, only a master's program would suffice, but at that time, the force of history in Oregon was against the idea. I won't go into detail about the problems I encountered; however, in the years since I have seen the proposal go through the various committees and levels three times, not to mention the many discussions and meetings between formal submissions to determine if another attempt would be worthwhile. Recently, the Oregon State Board of Higher Education, with this proposal in mind, stated that it would welcome proposals for graduate programs in liberal arts from Oregon State University. At the moment, the proposal for a master's degree in technical writing is again in the hands of the College of Liberal Arts curriculum committee and seems to have a good chance of passing. Unfortunately, the state is in a financial crisis, with threats to existing programs. Nevertheless, the proposed program would serve a real need, and consequently, once again I am promoting it.

The program itself is a cooperative effort between the departments of journalism and English, and uses many courses currently offered in other departments as well. The original idea was to use existing resources as much as possible to create a master's program at minimal cost. That ideal has been considerably modified, but the basic program has remained. It is divided

into four parts. There are 24 quarter credit hours required from a selection of core courses. These courses include practical study in technical writing and editing and the mechanics and management of publications, and theory courses in rhetoric and the structure of English. The second part of the program is a selection of courses in communications theory, such as language and thought, linguistics, and meaning and communication. The third part is a section on pedagogy with courses in composition for teachers, technical writing for teachers, and methods of teaching English. The fourth part is a wide selection of elective courses for students who wish either to specialize or to broaden their program. Courses include law, photo-journalism, and various seminars. Candidates are expected to take the basic core courses to acquire a foundation in both theory and practice, and then choose either courses in pedagogy, for those intending to teach, or practice, for those intending to go into industry. In addition, there is an internship for all candidates to gain on-the-job experience. The internship is based on a model already in existence in both the English and journalism departments. The total number of hours required is 45 quarter credits, or about one year of full-time study.

The problem of the technical component will be handled by requiring candidates to have a technical area from their undergraduate major. Those students who do not satisfy the admissions committee that their technical knowledge is adequate and those students who appear to have weak writing skills may be admitted provisionally and required to take remedial coursework as directed by the committee.

Initial enrollments would be limited to 20 entering students per year, with 50 graduates during the first five years a reasonable estimate of potential totals. The program is not intended to be large. It will provide graduates to fill the needs indicated, graduates whose training would be

broad enough that they could adapt as conditions change. Students currently enrolled in graduate programs who are interested in earning a minor might also be drawn to the program, especially if their field requires them to write extensively. For many major areas, technical writing would be an ideal minor. Such a program is particularly appropriate to the objectives of Oregon State University, which is a land grant and a sea grant institution and a major research center. The program will fill a national need, and would increase awareness generally of Oregon State University's commitment to communicate effectively information about scientific and technological advancements.

A PROPOSED MASTER OF TECHNICAL AND SCIENTIFIC COMMUNICATION: SOME NEW APPROACHES TO OLD PROBLEMS IN PROGRAM DESIGN

Paul V. Anderson
Department of English
Miami University
Oxford, Ohio 45056

At Miami University, we are developing a new master's level program in technical and scientific communication, which we plan to open in Autumn 1982, pending approval by the Ohio Board of Regents. This new venture will complement Miami's undergraduate program in business and technical writing, but differs from that program in several important ways. Most importantly, while the undergraduate program is an emphasis available to English majors, the master's program will offer its own degree, Master of Technical and Scientific Communication. Thus, the master's program is a professional, practice-oriented course of study, without any of the literature requirements that are usually found in emphasis programs (including Miami's own undergraduate emphasis program). In addition, whereas the undergraduate program focuses upon writing, the master's program will include instruction in a much broader range of activities involved with the communication of technical and scientific information.

Overall, Miami University's Master of Technical and Scientific Communication requires three semesters of graduate-level course work, together with an internship. Figure 1 shows the various elements of the program, arranged in one of the sequences in which students might choose to take them.

As we designed this program, we addressed a great variety of issues, both practical and theoretical, that have been discussed repeatedly over the years at the annual conferences of this organization, the Council for Programs in Technical and Scientific Communication. We have settled most of these issues by following the advice and examples provided by many of you who are here today. On three important issues, however, we have developed approaches that we believe to be unique; those issues are:

- -How to determine what kinds of communication activities should be taught in the program.
- -How to ensure that the students obtain a sufficient knowledge of technical and scientific subjects.
- -How to ensure that the students realize the full value of the internship.

In the hope that a knowledge of our approaches to these issues might be useful to you, I will discuss each briefly.

DETERMINING WHAT COMMUNICATION ACTIVITIES SHOULD BE TAUGHT

Miami's program, like almost all others, is designed to provide its graduates with two kinds of knowledge: knowledge of how to communicate and knowledge of the technical and scientific subjects that will form the substance of their communications. I will talk about Miami's approach to providing both kinds of knowledge, beginning with the knowledge of how to communicate technical and scientific information.

Deciding what topics should be included in the program's communication courses was the major problem we faced when designing our program. The conventional approach to choosing these topics is, essentially, to brainstorm--to think of a list of topics that, based on conversations with professional communicators or on common sense, seem to be appropriate. Program designers taking this approach quickly identify a list of subjects that everyone agrees should be included, such as audience analysis, language and linguistics, layout, charts and tables, and so on. Typically, these designers fill out the communication components of their programs in either of two ways: by offering courses in communication skills (such as computer programming) that seem as though they will be useful to some of the students although not to all, or by developing writing courses that concern specialized kinds of documents (such as environmental impact statements) that some of the graduates might have to prepare but others certainly will not.

We desired to develop a more systematic way of choosing the topics to be included in the communication component of our program. In particular, we wanted a way that would do the following two things:

1. Assure that our program is sufficiently comprehensive, that it provides at least an introduction to all the major aspects of the job that our graduates will perform.

2. Provide us with an intellectual framework for explaining to our students (and faculty) the relationships among the topics that are taught in the program's eight required courses.

Once we had stated our objectives in this way, the means of achieving them became obvious: we developed an account of what technical and scientific communicators do. The result, shown in Figure 2, is a list of the activities that comprise the process by which technical and scientific information is communicated. At the heart of this process is the activity that most people (and most programs) associate with the communication of technical and scientific information: the drafting and editing of some manuscript, whether it be a report, a script, or an article. However, the process involves a great many other activities as well, beginning with the identification of the need for a communication and ending with the evaluation of the communication that has been planned, drafted, edited, produced, and distributed in order to meet that need.

Rarely will a single communicator perform all the activities shown in Figure 2. Consequently, most programs (including our own undergraduate program) include instruction in only a small selection of those activities, usually the activities directly related to writing and, perhaps, editing. However, we decided that it is important that although most communicators don't themselves perform all the activities shown in Figure 2, they all work in an overall process that includes all these activities. Furthermore, as technical communicators advance in the profession, they often become responsible for supervising an increasingly broad range of the activities. We decided, therefore, that one aim of our program should be to prepare our students to work effectively with--and even to manage the efforts of--all the various people who must collaborate to create an effective technical or scientific communication.

Because of our interest in teaching about the entire technical communication process, we will require our students to take, in their first semester, a course that introduces them to the entire process by means of the case study method. This strategy was suggested to us by Professor Thomas E. Pearsall of the University of Minnesota, who served as the outside consultant to Miami during the development of our plans for the program. In addition, we have arranged for the required courses in the program to be offered by three departments, so that instruction in each activity of the technical and scientific communication process is offered by the faculty best able to teach it. The Department of English will offer six courses, mostly focusing on the construction of messages; these courses are in linguistics and language, rhetoric, writing, editing, and bibliography. The Department of Art will offer a course especially designed for the program that covers not only the elements of graphic design but also such topics as laying out pages, choosing type faces and sizes, creating keylines, overlays and screens, and estimating the cost of printing. And the Department of Communication and Theatre will offer a course that includes such topics as the theory and practice of analyzing and managing the flow of information in organizations.

Through this array of courses, we expect to be able to provide our students with a substantial introduction to the full range of activities that comprise the technical communication process.

ENSURING SUFFICIENT KNOWLEDGE OF SCIENCE AND TECHNOLOGY

Besides knowing how to communicate, graduates of programs in technical and scientific communication must know something about the subject of their communications: science and technology. Providing them with that knowledge is a difficult task, largely because what they need to learn about science and technology varies so much from student to student.

Some students wish to prepare for careers that require a very thorough knowledge of highly specialized topics, such as the students can gain only by taking a bachelor's degree in the subject. Others wish to prepare for jobs that require considerably less knowledge of a scientific or technical subject, certainly not more than the students could obtain by taking two or

three undergraduate courses in the subject. Still others wish to prepare for careers that do not require knowledge of any particular technical or scientific subject so much as a general acquaintance with several sciences, such as the students could obtain by taking, for example, an introductory undergraduate course in chemistry, another in physics, and a third in zoology. Additionally, the students admitted to programs in technical and scientific communication can vary greatly from one another in terms of the level of scientific and technical knowledge they already possess. This is especially true in graduate programs (like Miami's) that admit students from a variety of undergraduate majors. Students with baccalaureates in science or engineering probably do not need any additional course work in scientific and technical subjects. If they wish to increase their knowledge of science and technology, they will probably prefer to take graduate courses, not undergraduate ones. In contrast, students with baccalaureates in the humanities may be totally unprepared to take graduate course work--or even advanced undergraduate course work--in science and technology. And yet they may sorely need some instruction in these fields.

So, at least potentially, programs in technical and scientific communication face two problems when trying to ensure that their graduates possess the knowledge of science and technology that the graduates will use in their careers:

1. Determining exactly what each individual student needs to know about science and technology in order to prepare for the career he or she has chosen.

2. Devising an appropriate means for enabling each student to acquire that knowledge.

One way to "solve" these problems is to eliminate them. For instance, the designers of a graduate program may decide that it will admit only students with undergraduate degrees in some scientific or technical area, so that the program does not need to concern itself with educating any of its students in those fields. Alternatively a program can establish a single set of courses in science and technology that it requires all its students to take, regardless of their previous education, their interests, or their career objectives. At Miami, we have rejected both of these "solutions." Students with humanities degrees bring special abilities and talents to the profession of technical and scientific communication, and we want to include such students in our program. Similarly, we have decided against establishing a common set of technical and scientific courses because we want our program to build upon and take advantage of--rather than ignore--the important differences among our students.

Therefore, with the help of the chairpersons of the various science and applied science departments at Miami, we have devised the following plan:

-We have made a knowledge of science and technology a requirement for graduation, not for admission. Thus, students who have not already

gained that knowledge as undergraduates can gain it through their electives or through supplementary course work while in our program.

-At the time of admission, we will tell each student whether or not he or she must take courses in science and technology in order to graduate.

-As soon as he or she arrives on campus, each student who needs course work in science and technology will begin working with faculty to draw up an individualized list of the courses to be taken. In developing this list, we will call upon the assistance of the various scientific and technical departments on campus whose course offerings are related to the interests and career objectives of the student. If appropriate, the student will be able to satisfy this requirement by taking undergraduate courses; however, undergraduate courses will not count toward the minimum number of graduate hours required to obtain the degree. Graduate courses in science and technology may be counted among the three electives that are part of our program.

This system will require that our faculty spend a great deal of time advising students, particularly students who come to the program without a firm sense of exactly what kind of career they wish to pursue. Nevertheless, we are persuaded that for this time-consuming effort we will be rewarded with graduates who will each possess precisely the knowledge of science and technology that is required for the career he or she has chosen.

REALIZING THE FULL VALUE OF INTERNSHIPS

In addition to course work, Miami's program includes a required, semester-long internship. We agree with the conventional view that it is desirable to provide students with at least a few months of work experience before they begin their first full-time jobs. However, our particular approach to handling the internship reflects another view as well: that the internship must be designed to provide students with a learning experience that is richer than the one any new employee gains during the first few months on the job. In particular, we want to be sure that the students use the internship to reflect actively about how the material (particularly the theoretical material) learned in the classroom applies to working situations.

To ensure that they do, we will require students to perform their internships under the supervision of internship committees; each student will have his or her own committee of three or four faculty, including not only faculty from the program but also, when it can be arranged, at least one from a technical or scientific department in a field related to the work done by the organization that employs the student as an intern. During their internships, the students will send brief monthly reports to their internship committees. More importantly, at the end of their internships, the students will submit formal final reports to their committees. In these reports, the students will describe their internships

and they will analyze the relationships between what they saw and did during their internships and what they read, heard, discussed and practiced in their courses. Besides writing a report, each student will discuss the report in a presentation to his or her committee, interested members of the university community, and (when possible) a representative of the organization that sponsored the internship. The student's report will be bound and placed in the university library just as master's theses are.

Although Miami's master's program in technical and scientific communication will not open for a year, I have already gained experience with this kind of internship program through my work with Miami University's Institute of Environmental Sciences, which also awards a master's degree. IES has 14 areas of concentration, including one in public information, for which I am an adviser. Students in this area of concentration perform internships that are very similar to those that will be performed by students in our technical and scientific communication program, and the IES students have internship committees for whom they prepare and present formal final reports on their internships. The reports are generally between 20 and 30 pages, plus appendices containing the communications prepared by the students during their internships. Working with these IES students has persuaded me that the reports do cause students to reflect in ways they otherwise wouldn't about the relationships between what they heard in class and what they did on the job. It also gives them one last experience at writing under the close supervision of a university professor.

This arrangement for handling internships will have several benefits beyond those received by each student as the student prepares and presents his or her report. By reading the reports and attending the presentations of other students, those who are new to the program will learn a great deal about the profession they have chosen to pursue, and they will prepare to decide knowledgeably about the kinds of internships they would like to arrange for themselves. Similarly, the reports and presentations will enable faculty to keep abreast of current practices in the profession. Finally, by encouraging faculty from various scientific and technical departments to participate on the supervising committees, this internship arrangement will help us build a network of faculty throughout the university who can assist us in a variety of ways, such as by helping us recruit students and by informing us of the problems in communication that are of most interest to members of their disciplines.

CONCLUSION

The innovations I have discussed in this paper are really nothing more than slight modifications of traditional approaches to designing programs in technical and scientific communication. They arise from correspondingly slight modifications in the conception of what such a program should accomplish. I would like to close this paper by reviewing our rationales for these innovations.

We decided to develop and use a model of the technical and scientific communication process because we wanted a way of determining what topics should be included in our program if the program is to provide instruction in a comprehensive set of activities whose relationships to one another are evident to both students and faculty. Using the model, we have indeed been able to decide what topics our program should include, and which we should emphasize. Also, by discussing the model explicitly in our courses, particularly in the introductory (case study) course, we will be able to provide our students with a comprehensive overview of the profession they have chosen, and we will be able to give them an intellectual framework for integrating the materials they will study in the various courses in the program.

Our approach to ensuring that each graduate possesses an appropriate knowledge of science and technology arises from our belief that programs in technical and scientific communication should cultivate diversity, rather than uniformity, within their student bodies. By making the knowledge of science and technology a requirement for graduation, not admission, we have tried to encourage applications from students in a wide range of disciplines. By reviewing each student's undergraduate record to determine whether he or she already has the requisite knowledge, we are trying to individualize our program, an objective we also are pursuing by working individually with each student who must take supplementary courses to determine which courses in science and technology would be most compatible with his or her background, interests, and career objectives.

Finally, we have decided to require students to prepare and present formal reports on their internships in order to ensure that the internship is not merely an introductory job but rather a fully integrated part of the education they receive in our program.

As I mentioned earlier, we plan to open our program in Autumn 1982, at which time we will, I am sure, begin immediately to tinker with it. However, we have devoted enough thought to the three innovations that I have discussed in order to feel justified in sharing them with you now, even though they may soon be transformed.

Figure 1

CURRICULUM

Master of Technical and Scientific Communication
Miami University, Oxford, Ohio

First Year

First Semester			Second Semester		
ENG 601	Introduction to Language and Linguistics	2	ENG 609	Bibliographic Resources for Technical and Scientific Writing	2
ENG 602	Introduction to Rhetoric	2	ENG 697	Technical and Scientific Editing	2
ENG 695	Introduction to Technical and Scientific Communication	4	ENG 696	Technical and Scientific Writing	4
CAT 539	Organizational Communication	3	--- ---	Approved Elective	3-4
	Total Hours	11			11-12

(Note: The first year's work culminates in a qualifying examination taken after the second semester.)

Second Year

First Semester			Second Semester		
ART 655	Graduate Study in Communication Graphics	4	ENG 730	Internship in Technical and Scientific Communication	6-15
--- ---	Approved Elective	3-4			
--- ---	Approved Elective	3-4			
	Total Hours	10-12			

Figure 2

TECHNICAL AND SCIENTIFIC COMMUNICATION PROCESS

Identify Need

Plan

- Define Purpose
- Analyze Context
- Analyze Audience
- Make Basic Decision About Medium, Form, Style, Production, Delivery, Evaluation, Etc.

Gather Information

- Interview
- Use Library Resources

Draft

- Prepare Prose
- Prepare Visuals

Revise

- Edit
- Check Factual Accuracy
- Test Effectiveness

Design Finished Product (For example, in print: choose typefaces and paper, design the layout, etc.)

Produce (Print, record, film, etc.)

Present

- Package the Communication
- Deliver It

Evaluate

- Design Method of Evaluation
- Use the Method
- Analyze Results
- Formulate Recommendations

A NEW PRAGMATIC: A NONPRAGMATIC, INTELLECTUAL RATIONALE FOR TECHNICAL WRITING GRADUATE STUDY

Carol S. Lipson
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My thoughts on establishing a graduate program at Syracuse University resulted mainly from the considerable interest shown by the graduate students in our English department. I had been working with an unwieldy number of students, either to train them quickly in the field so they could teach or to informally advise and teach small groups who came to me to learn about technical writing. The interest and the need were there. Six or seven have landed good jobs teaching or doing technical writing, but clearly we were sending them out, with their literature degrees, ill prepared for technical writing.

As I began to think about designing a program for future students, I concluded that our field needs a stronger intellectual base as a discipline, a base in theory and in history. Only one school gives the PhD now, and not much more than 10 give the masters degree. There is little opportunity for most out there hired to teach or do technical writing to receive training in methods and approaches for

research, design, or evaluation; they have not acquired the necessary underpinnings to develop solid answers to significant and fundamental questions. All of us have sat through panels in technical writing at conferences -- whether the participants were academic or industrial representatives -- and heard talk after talk presenting extremely shallow material, shoddy in methodology, based on thinking processes that would get the presenters soundly reprimanded in other fields, but that seem to pass in technical writing.

It's indeed hard to find a session in technical writing at a conference that is not of the nuts and bolts variety, offering advice on what to teach, how to teach, what industry does, and what industry wants. When we do find something more fundamental, the presenters are either from RPI, or are retreads from other fields who are applying advances in their own fields to technical writing; unfortunately these often have no deep understanding of the nature of technical writing.

Academics are not the only ones to need the research preparation. So much is at stake in so many writing projects in industry that industry has often been frustrated in attempting to get technical writers to design and plan projects based on solid testing, on solid theoretical foundations. The technical writers don't come in with adequate preparation for this.

I have long felt, then, that we need to sharpen the level of research preparation in our field. Thus in considering a design for a graduate program, I felt a mandate to provide the research background I see as required. At the same time, we face an urgent need to give rudimentary training to graduate students and any faculty that come from other areas so they can teach the technical writing courses so much in demand by undergraduates and corporations, and also so they can assume the responsibilities industry is offering them as technical writers.

In researching graduate programs, I found a number of precedents for programs focussing on career preparation for future teaching or writing. For instance, Bowling Green's recently established program is mainly geared to writer preparation; it's a carefully honed skills acquisition program. Gerald Alred in the Journal of Technical Writing and Communication (Fall, 1980) describes a pedagogy course: Teaching Technical Writing. Raena Wharton and Merrill Whitburn in the recent issue of The Technical Writing Teacher have an article describing a program with a teacher preparation focus, but with a component on research in the field. The graduate program I would foresee presenting at SU would be closer to Wharton and Whitburn's Texas A&M program; it would

have pedagogical and practicum components, but the intellectual and theoretical and research dimensions would also be given priority. I would foresee one of the major purposes being to prepare the graduates for the evaluative and design thinking they'll have to do when they take the positions they seem to be getting now without adequate preparation.

Let me add an additional caveat. Our own experience at Syracuse University has borne out the fact that English departments and humanities divisions can have violently negative reactions to program rationales based on practical considerations, be these for career preparation or for teaching preparation. I'm sure our department and college are in no way unique in this. Note that I have been giving you so far a career preparation rationale -- students will need to do research in academia, and to determine and defend the most suitable methods, plans, and approaches in industry, so prepare them. Yet only a justification based on the intellectual merit of the subject, on its own intrinsic value to students of English, would be accepted by the audience I had to propose to. That was made quite clear. The proposal could not be based on pragmatic grounds. Since in fact my own feelings of the direction needed for the field coincided closely with these restrictions imposed, they were not particularly onerous. The nonpragmatic proposal I

submitted for a technical writing graduate course was accepted, a rhetoric course was accepted, and we have been able to change the masters degree offered from a masters in literature to a masters in English.

Unfortunately the staffing level now doesn't warrant offering a Masters in Technical Writing yet. So far, we can offer a Masters in English with a concentration in writing or technical writing. We have only two upper division writing faculty members, both of us hired two years ago: myself in technical writing, and John Hagaman in rhetoric. We have added to the current literature-based graduate program a course in the theory and practice of rhetoric, and a course on fundamentals of technical writing theory, practice, and pedagogy. We have an existing graduate course on the structure and history of the English language, another on teaching writing. We are going to add a course dealing with research in writing, and one advanced course in technical writing, which will be in the form of a writing workshop. The exact plan for this course hasn't been established yet, and I will be glad to receive suggestions.

In addition, we have arranged some internships for practical experience and spoken with other departments and

schools at our university to arrange that our students can take courses such as graphics, magazine writing and editing, statistics, computer use, organizational management, organizational psychology, philosophy of science, ethics of engineering, etc, outside of the English department. Thus a possible program is developing, and graduate students are being attracted to the study of writing. Our rhetoric course -- the first new one to be offered as part of the new writing emphasis -- enrolled 21 students this semester; this was the largest enrollment in a graduate level course in our department.

Let me describe to you the nonpragmatic, intellectual rationale we presented for the technical writing graduate course I will be teaching in the Fall of 1981. It is entitled "Technical Writing Fundamentals: Theory, Practice, and Pedagogy." The rationale on which it was presented to the presiding committees was based on the fact that so much of the use of the English language is functional in purpose and specialized in subject. The course will thus examine the process by which functional communication on technical or scientific subjects operates, in order to bring students to better understand the special conditions and problems inherent in the process and to help them pinpoint methods

for achieving and gauging effectiveness in such prose. That is, technical writing has been put forward as a fertile field for a beginning study of process and effect in transactional or practical writing. The Faculty Senate quite readily accepted that it was germane for students of English -- students of writing -- to gain such understanding.

The course content I proposed had three components. First, the course will deal with the question of what technical writing is, as distinguished from other types of writing. It will provide a historical glimpse of the development of the field, and an examination of changes in both theory and practice and of the evolution of specialized forms and norms. We'll lead to an examination of modern technical reports and proposals and manuals -- ones typical in situation, but certainly some that transcend the norm in quality. I might add that the historical focus will begin not with World War II, but with ancient Egyptian writings.

The second component of the course will focus on theory and on its application to practice. I will give attention to recent work in communications, semantics, linguistics, rhetoric, and behavioral psychology. Here I intend to examine Harper's Human Communication Theory: The History of a Paradigm, Kuhn's The Structure of Scientific Revolutions, Kinneavy's

Theory of Discourse, Lanham's Style: An Antitext, Cooper and Odell's Research on Composing, sociolinguistic readings extending Sapir and Whorf's work on the relation between language and culture, as well as other selected readings.

The third part of the course will discuss methods and materials for teaching technical writing. In addition to alerting students to resources available, I will describe the conflicting schools of thought on teaching technical writing: the prescriptive versus the heuristic approach, the product approach versus the process approach, the service approach ('we will teach people to do things the way industry does them') versus the idealistic approach ('we will teach students to do things differently and better'). Lastly, I will discuss the implications of contemporary research in communications, psychology, and rhetoric to technical writing pedagogy.

Given the threefold purpose and content division of the course, it shouldn't come as a surprise that I will have three types of assignments: (1) A literature review on a research or theoretical subject in the field (2) Papers for practice in various rhetorical patterns, such as reports, proposals, and descriptions. The subject for one of these papers will be from the historical part of the course; another

paper will be from the pedagogical portion. (3) The third major paper will be an article of professional quality for potential publication. Each student will be assigned as editor for another student's article; editing skills will thus be sharpened as well as writing skills. (Herman Estrin deserves acknowledgement for this assignment idea; it works).

I can report more to you after the course is taught and we make adjustments according to what we learn from experience. I am certainly eager to hear from others who have developed courses with similar goals or who can offer suggestions that may be of use to us in our efforts. The Council's Directory does not contain much information on graduate courses and programs, and until very recently, the literature has not offered very much substantial help for this level or type of course. I see in the article on Texas A&M's course that I am not the only one currently working on a direction of this nature. I hope to stimulate others who may be contemplating graduate programs to consider including strong focuses on research and theory. Just as technical writing itself consists of more than just the instruction manual as a genre, technical writing graduate programs should be more than instruction manuals for future writers and teachers to learn what to do and how to do it. To paraphrase Carolyn Miller from her article entitled "A Humanistic Rationale for Technical Writing," we need to work toward developing understanding, not just skills.

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THE MASTER'S PROGRAM IN PROFESSIONAL WRITING AT CARNEGIE-MELLON

Beekman Cottrell
Carnegie-Mellon University

The Master's Program in Professional Writing is designed for students who want careers as writers in business and government.

Both business and government employ a substantial number of professional writers. They write regulations, brochures, forms, manuals for operating and repairing machines, public relations releases, in-house publications, and so on--in short, the kind of writing necessary for carrying on the day-to-day affairs of society. The Master's Program is designed to develop the abilities needed to carry out a wide range of writing assignments in the public and private sectors of society. It seeks to prepare the student for several possible points of entry into a professional writing career by developing an understanding of the most frequently occurring problems in professional communication and by developing theory-based analytical and problem-solving abilities that have wide application.

The Program requires three semesters of course work in the craft of writing, rhetorical theory, linguistics, visual design and computer technology. It also requires a summer internship in a government agency, consulting firm, corporation or other appropriate organization.

The Program is intended to develop several kinds of knowledge and skill.

- It develops further the writing and critical skills of students who are already competent in the fundamentals.
- It develops an understanding of rhetorical theories that offer explanations of the processes of composing and communication and, hence, provides the basis for carrying out these processes more effectively.

- It develops a greater understanding of the structure and variant forms of the English language.

- It develops a basic understanding of the principles and potentials of computers and other word-processing systems.

- It develops an understanding of the role of visual design in communication and a knowledge of the fundamentals of design.

The internship and a case-study course in professional writing provide students with opportunities to integrate and employ the knowledge and skills acquired in other parts of the Program.

Course Requirements

Writing (3 courses)
- Technical Writing and Editing
- Professional Writing
- Writing Elective

Language and Linguistics (2 courses)
- Introduction to Linguistic Analysis
- One of the following:
  - History and Varieties of the English Language
  - Stylistics
  - Discourse Analysis

Computer Studies (1 course)
- The Computer in Literary and Linguistic Studies (elected by students taking Stylistics)
- Introduction to Computing A
- Introduction to Computing B (elected by students who want additional work in computer studies)

Rhetorical Theory (2 courses)
- History of Rhetorical Theory I
- History of Rhetorical Theory II
- Contemporary Theories of Invention
- Contemporary Rhetorical Theory

Visual Design (2 courses)
- Fundamentals of Graphic Design
- Visual Communication

Electives (2 courses)
- Selected in consultation with advisor. Electives offer additional work in computer studeis, design, writing, language studies, and critical analysis. Courses in science, technology and business administration may also be elected.

Internship
- Normally taken in the summer prior to the third semester of the Program

For additional information write or call:

Pete Jones, Associate Head
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Phone: (412) 578-2850

THE PHD IN RHETORIC AT CARNEGIE-MELLON UNIVERSITY

The PhD in Rhetoric is focused on rhetorical theory--especially on theoretical explanations of how people produce and understand discourse. It is designed for students who want careers in rhetorical research and the teaching of rhetoric and composition in English departments and interdisciplinary programs. An option may be elected that prepares one for writing and applied research in government and business.

The curriculum offers a series of complementary approaches to rhetorical theory; it is made up of courses in 1) the history of rhetorical theories, 2) the development of new rhetorical theories, 3) the application of theories to practical problems, and 4) the evaluation of theories and their applications.

1. History: A comparative study of the major theories from Platonic rhetoric to the New Rhetoric of the twentieth century and the contexts in which the theories were developed. Comparative study provides a detailed knowledge of alternative theories of rhetoric (e.g., those of Aristotle, Cicero, Augustine, Campbell); and in doing so it also provides the foundation necessary for understanding recent developments in the discipline (e.g., the work of Burke and Perelman, speech act theory, tagmemic rhetoric). The study of contexts entails investigation of the situations and beliefs (social, political, psychological, philosophical, artistic) that help to shape rhetorical theory; it also entails an investigation of the ways in which rhetoric has, in turn, shaped its contexts.

2. Theory development: A study of how one develops explanatory principles in response to rhetorical problems. Course work includes investigation of current theoretical developments and opportunities to develop original theoretical responses to problems associated with producing and understanding discourse.

3. Application: Study of the uses of rhetorical theories for practical purposes--especially for producing effective discourse and for the critical reading of texts. One goal of the program is the ability to use theory to increase the effectiveness of reading, writing and teaching. Courses in rhetorical criticism and internships in the teaching of writing are means to this end.

4. Evaluation: Study of methods for verifying and evaluating theories and their applications This part of the program is devoted to study of appropriate ways of answering three questions: "Is it true?" "Does it work?" "Is it significant?" The methods are brought to bear on one's own work as well as the work of others. Courses present a variety of research methods, including formal empirical research; internships in the University's Center for Communications Design provide an opportunity to carry out extended research projects with the help of the faculty from the Departments of English and Psychology.

* * * * *

Students in the program may undertake internships and research projects in communications design, i.e., in research devoted to the design and evaluation of communications used in government and business. Although this option is entirely appropriate for students who want careers in university teaching, it is intended primarily for those who want careers as researchers and consultants in government and business. Specialization is achieved through elective courses, an internship or research assistantship in the Center for Communications Design, and the dissertation.

For additional information write:

Richard Young, Head
Department of English
Carnegie-Mellon University
Pittsburgh, PA 15213

BUSINESS MEETING

COUNCIL FOR PROGRAMS IN TECHNICAL AND

SCIENTIFIC COMMUNICATION

APRIL 24, 1981

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Guests

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Murphy, George	College of Arts and Sciences University of Washington Seattle, WA 98195	(206) 543-4883

Minutes of the Meeting of the Council for Programs
in Technical and Scientific Communication held at
Seattle, Washington, April 23-24, 1981

The meeting was called to order at the University of Washington campus by President Dave Carson at 11:00 a.m., April 24. Carson opened with a welcome to new members, and a call for dues, reminding those present that such dues are payable each year at the annual meeting. He also reminded those present that dues paid after six months into the Council year are credited to the following year.

The winners in the Graphic Design competition were announced. They are: Chew-Wah Chung (University of Minnesota), and Kathryn Markle (North Carolina State-Raleigh), co-winners of combined first and second prize, and Elaine Lewis and Richard G. VanAlstyne (Rensselaer Polytechnic Institute), third prize.

Virginia Book distributed the Minutes for the CPTSC 1980 business meeting (attached). Warren moved, and Geonetta seconded, that they be accepted. The motion carried.

In the absence of Treasurer Carolyn Miller, Book presented the Treasurer's report (attached). Book moved, and Warren seconded, that the report be accepted. The motion carried.

Book then spoke briefly about the process for publishing the proceedings of the annual meeting. She suggested that the Vice President of CPTSC collect and review the papers, and assume responsibility for publishing the proceedings. Thus, the Vice President would serve as editor. She suggested guidelines for uniform format for articles, and gave June 1, 1981, as the deadline for submission for this year's publication.

Paul Anderson then moved that the CPTSC no longer publish proceedings. He argued that there is no quality control and urged members to try to get serious articles placed in responsible journals. The motion was not seconded.

Carson responded to Anderson's motion by suggesting that the proceedings are more of an aide-memoir and reference guide than a scholarly publication, with an informational rather than a scholarly function. It was also noted that the proceedings are not copywrited; therefore, articles may be submitted to journals for publication.

Carson reminded Cottrell that he is to develop a brochure/application with logo which can be sent to those who inquire about membership in the Council.

Carson also announced that he is asking the Treasurer to submit a quarterly report during the coming year to avoid financial complications that have arisen in the past.

New Business

Proposed Amendments to the CPTSC Constitution (Constitution and proposed amendments attached):

Proposed Amendment Number One: This amendment would change the wording of Article III (Membership) and Article VII (Finance) to create a new membership category (Special), with different membership fee for non-educators.

Article III:

There was considerable discussion about the pros and cons of sustaining, non-voting members. Anderson moved that the words "Individuals or institutions from the military-industrial complex" be removed from the proposed change in Article III, and that the word "others" be substituted. The amended amendment to Article III now reads:

> Membership shall be open to any individual or institution interested in supporting the purposes identified in Article II. Individuals or institutions whose primary responsibilities or functions are education shall be designated Regular Voting Members. Others shall be designated Special Non-Voting Members. Membership shall be open to any person without regard for race, age, sex, or religious affiliation.

Mike White moved, and Simon Johnson seconded. Motion carried.

Article VII:

This amendment concerns the dues for the organization. These are set at $15.00 for Regular members and the question was what amount should be set for the Special Non-Voting members.

After considerable discussion, Mike White suggested $50.00. Anderson moved, and White seconded that Special Non-Voting members pay dues of $50.00. The motion carried unanimously.

Article VII now reads:

> The dues for the organization shall be $15.00 per year for Regular Voting Members and $50.00 per year for Special Non-Voting Members. All dues are payable prior to or upon registration at the annual meeting.

Proposed Amendment Number Two: This amendment would change the wording of Article IV (Officers) to extend the term of elected officers from one to two years. After some discussion about the positive practicality of the change, Warren moved and Johnson seconded, that the amendment be passed. Motion carried.

Article IV now reads:

> The officers of the organization shall be president, vice-president, secretary, and treasurer, each to be elected for a two-year term.

The Council voted to extend the terms of the present officers one year, 1981-1982. The officers are:

President:	David Carson
Vice President:	Virginia Book
Secretary:	Beekman Cottrell
Treasurer:	Carolyn Miller
Member-at-Large:	Myron White

Discussion followed on the site for the 1982 annual meeting. As of now, the meeting in 1982 will be hosted by Carnegie-Mellon University in Pittsburgh. Bowling Green, Ohio, is a possible alternate site. Virginia Book extended an invitation from the University of Nebraska to host the 1983 meeting in Lincoln, Nebraska.

President Carson spoke for the whole group in giving a vote of thanks to Mike White, Jim Souther and their colleagues for the efficient and pleasant 1981 meeting.

Meeting adjourned at 12:00 noon.

Respectfully submitted,

Beekman W. Cottrell

Beekman W. Cottrell,
Secretary

Minutes of the Meeting of the Council for Programs
for Technical and Scientific Communication held at
Buena Vista, Florida, February 14-15, 1980

The meeting was called to order by President Tom Warren at 1:15. Warren reminded the members that dues for 1980 should be paid.

Warren called for committee reports.

Publications report - David Carson

Carson explained that the 1979 Proceedings have been delayed, but should be mailed to members by the end of March. He reminded the participants about the graphics/art competition, and urged those present to encourage students to enter. To date, only two entries have been received, both from the University of Minnesota.

Treasurer's Report - Carolyn Miller

The balance in the treasury is $945.25. A bill for $30 was submitted at the meeting.

Old Business

Warren described the orange book and the programs booklet. He asked the participants to consider a revision of the orange book. There was considerable discussion, but no decisions were reached. Warren announced that there are approximately 200 directories left.

Carson moved and Muller seconded that the CPTSC formally thank Roland Browne and his university for hosting the 1980 conference. The motion carried unanimously.

The site for the 1981 meeting was discussed. Mike White offered the University of Washington at Seattle. There was some concern expressed that members might find it difficult to finance a trip to Seattle, and that the location might reduce the number attending. Others suggested that members who have been unable to attend meetings in the East or in the South might be able to attend a meeting in Washington, and there is some advantage in going to different locations because different people are given the opportunity to attend. Roland Browne moved we hold the meeting in Seattle in 1981. Muller seconded. The motion carried. The 1982 meeting will be held in Pittsburgh.

Carson suggested everyone introduce him/herself, since several new people were attending. Two suggestions for next year's meeting were made: that the meeting be less structured and that some open sessions be planned to discuss common problems.

New Business

Miller asked if there is any flyer or other printed material available to send people who want information about the organization. She also raised the issue of an interim letterhead and application forms for membership. The executive committee will make arrangements for printing interim letterhead stationery, and Cottrell will draft a flyer and application form.

A discussion on establishing corporate memberships followed. Muller moved that CPTSC charge $100 for a corporate membership. Roland Browne seconded. Smith suggested that the constitution might have to be amended to accommodate the corporate membership fee. White suggested we pull out the membership section and rewrite it to eliminate references to specific amounts for membership. Muller amended his original motion to read that CPTSC charge $100 for a corporate membership for the coming year, this figure to be used until the constitution is amended. Browne seconded. Motion carried. White suggested the directory should be made available to corporations.

Election of officers.

The following slate of nominations was offered:

President	David Carson
Vice President	Virginia Book
Secretary	Beekman Cottrell
Treasurer	Carolyn Miller
Member at large	Mike White and Jim Miles

Muller moved that the nominees for president, vice president, secretary and treasurer be elected by unanimous consent. Motion carried.

A secret ballot was called for to elect the member at large. Mike White was elected.

Warren said a membership list and a copy of the constitution would be sent to all current members (41).

Warren stepped down from the presidency and turned the meeting over to Carson. Carson asked Warren to conduct the rest of the conference.

Warren called for any further new business. Since there was none, the business meeting was adjourned at 2:05

Respectfully submitted,

Virginia Book

Virginia Book
Secretary

CPTSC

THE COUNCIL FOR PROGRAMS IN TECHNICAL AND SCIENTIFIC COMMUNICATION

TREASURER'S REPORT 1980-81

CREDITS

Balance brought forward from before 1980 meeting	$ 945.25
Memberships: 23 renewals + 24 new = 47 x $15.00	705.00
Sales of Directory: 3 @ $5.00	15.00
	1665.25

DEBITS

Supplies (envelopes, photocopies, postage, receipt book, placques)	143.32
Publications	
Collating and binding Directory (RPI)	46.05
Printing stationery and 1980 Proceedings (RPI)	325.94
Printing and mailing 1979 Proceedings (OSU)	251.58
Graphics Competition Awards	225.00
	991.89
TOTAL	673.36

Respectfully submitted,

Carolyn R. Miller

Carolyn R. Miller, Treasurer
13 April 1981

CONSTITUTION

ARTICLE I
NAME:

The name of the organization shall be Council for Programs in Technical and Scientific Communication.

ARTICLE II
PURPOSE:

The primary purposes of the organization shall be to (1) promote programs in technical and scientific communication, (2) promote research in technical and scientific communication, (3) develop opportunities for the exchange of ideas and information concerning programs, research, and career opportunities, (4) assist in the development of new programs in technical and scientific communication, and (5) promote exchange of information between this organization and other professional organizations and interested parties. Said organization is organized exclusively for educational purposes.

ARTICLE III
MEMBERSHIP:

Membership shall be open to any individual or institution interested in supporting the purposes identified in Article II. Membership shall be open to any person without regard for race, age, sex, or religious affiliation.

ARTICLE IV
OFFICERS:

The officers of the organization shall be president, vice president, secretary, and treasurer, each to be elected for a one-year term of office.

The duties of the officers shall be:

President:
1) preside at the annual national convention of the organization.
2) represent the organization at official functions.
3) serve as chairman of the executive committee.

Vice President:
1) perform all the duties of the president in the event of the president's absence.

Secretary:
1) maintain all records of the organization including matters of correspondence.

Treasurer:
1) handle all financial matters of the organization including the receiving and recording of dues and payments and paying the bills of the organization.
2) maintain an up-to-date membership list.

The president, vice president, secretary, and treasurer, plus the immediate past president and one member-at-large, elected by the membership, shall serve as an executive committee. The executive committee shall have the right to act on the behalf of the organization at such times as the organization is not meeting in full assembly except to change the constitution or carry out elections.

ARTICLE V
LIMITS:

No part of the net earning of the organization shall inure to the benefit of, or be distributable to its members, trustees, officers, or other private persons, except that the organization shall be authorized and empowered to pay reasonable compensation for services rendered and to make payments and distributions in furtherance of the purposes set forth in Article III hereof. No substantial part of the activities of the organization shall be the carrying out of propagnada, or otherwise attempting to influence legislation, and the organization shall not participate in, or intervene in (including the publishing or distribution of statements) any political campaign on behalf of any candidate for public office. Notwithstanding any other provision of these articles, the organization shall not carry on any other activities not permitted to be carried on (a) by a corporation exempt from Federal income tax under section 501 (c) (3) of the Internal Revenue Code of 1954 (or the corresponding provision of any future United States Internal Revenue Law) or (b) by a corporation, contributions to which are deductible under section 170 (e) (2) of the Internal Revenue Code of 1954 (or corresponding provision of any future United States Internal Revenue Law).

ARTICLE VI
MEETINGS:

The organization shall meet in full convention annually. The location of the annual meeting shall be determined by vote of assembly at the preceding convention. The approximate date of the meeting shall also be established.

Special meetings of the organization may be held at need as determined by the executive committee.

ARTICLE VII
FINANCES:

The dues for the organization shall be $15.00 per year payable prior to or upon registration at the annual meeting.

ARTICLE VIII
ELECTIONS:

The election of officers and members-at-large to the executive committee shall be held at the annual meeting. The existing executive committee shall each year nominate a slate of officers and a member-at-large and have this slate in the hands of the membership 30 days before the annual meeting. Nominations will also be allowed from the floor at the annual meeting. Elections shall be by written ballot.

ARTICLE IX
CONSTITUTIONAL AMENDMENT:

This constitution shall be amendable by a two-thirds vote of the assembly present and voting at the annual meeting. Proposed amendments to the constitution must be in the hands of the members at least two months in advance of the annual meeting at which the vote is to be taken.

ARTICLE X
DISSOLUTION:

Upon the dissolution of the organization, the Board of Directors shall, after paying or making provision for the payment of all of the liabilities of the organization, dispose of all of the assets of the organization exclusively for the purposes of the organization in such manner, or to such organization or organizations organized and operated exclusively for charitable, educational, religious, or scientific purposes as shall at the time qualify as an exempt organization or organizations under section 501 (c) (3) of the Internal Revenue Code of 1954 (or the corresponding provision of any future United States Internal Revenue Law), as the Board of Directors shall determine. Any such assets not so disposed of shall be disposed of by the Court of Common Pleas of the county in which the principal office of the corporation is then located, exclusively for such purposes or to such organization or organizations, as said Court shall determine, which are organized and operated exclusively for such purposes.

ARTICLE XI
PARLIAMENTARY AUTHORITY:

All official meetings, of the organization, shall be conducted according to the Standard Code of Parliamentary Procedure by Alice B. Sturgis. The presiding officer shall appoint a parliamentarian to advise the assembly at each annual meeting.

Cptsc

THE COUNCIL FOR PROGRAMS IN TECHNICAL AND SCIENTIFIC COMMUNICATION

PROPOSAL

to

Amend the Constitution of CPTSC

* * * * *

Proposed Amendment Number One

This amendment would change the wording of Article III (Membership) and Article VII (Finance) to create a new membership category (Special),with different membership fee,for non-educators.

Rationale

For the past two years the membership has discussed the desirability and feasibility of creating a special membership category for representatives from industry and government to encourage better communication between CPTSC and those sectors of technical communication. To maintain the purely educational nature of the organization as specified in Article II of the constitution, special memberships will be restricted to non-voting memberships.

Proposed Change to Article III

The wording of Article III (Membership) shall be changed as follows:

> "Membership shall be open to any individual or institution interested in supporting the purposes identified in Article II. Individuals or institutions whose primary responsibilities or functions are educational shall be designated Regular Voting Members. Individuals or institutions from the military-industrial complex shall be designated Special Non-Voting Members. Membership shall be open to any person without regard for race, age, sex, or religious affiliation."

Proposed Change to Article VII

The wording of Article VII (Finances) shall be changed as follows:

Proposal for Amendment/2

"The dues for the organization shall be $15.00 per year for Regular Voting Members and _____* per year for Special Non-Voting Members. All dues are payable prior to or upon registration at the annual meeting."

Proposed Amendment Number Two

This amendment would change the wording of Article IV (Officers) to change the term of elected officers from one to two years.

Rationale

For several years the membership has discussed the desirability and feasibility of electing officers for two-year terms instead of the one-year terms now specified in Article IV of the constitution. Given the fact that the organization is small in size, various members have expressed the opinion that

-- Officers, typically burdened down by heavy workloads, could serve more effectively, with a two-year term, because they would be able to devote more time to long range projects;

-- A two-year term would, generally, improve organizational stability;

-- The primary purposes of the organization as specified in Article II of the constitution would be better served by a two-year term;

-- Official adoption of the two-year term would conform to past practice of the organization; and that

-- Establishment of the two-year term would conform to the practice of similar organizations (ATTW).

Proposed Change to Article IV

The wording of Article IV (Officers) shall be changed as follows:

"The officers of the organization shall be president, vice president, secretary, and treasurer, each to be elected for a two-year term of office."

*Intentionally left blank to be filled after discussion at the annual convention.

Cptsc

THE COUNCIL FOR PROGRAMS IN TECHNICAL AND SCIENTIFIC COMMUNICATION

Rensselaer Polytechnic Institute February 20, 1981

Dear Colleagues:

The attached proposals for amending the CPTSC Constitution are submitted for your review in accordance with Article IX (Constitutional Amendment) of the Constitution.

We will discuss the proposed amendments at our Seattle meeting.

See you there!

Sincerely,

David L. Carson
President

APPENDIX A:

Members and Former Members

CPTSC MEMBERS & FORMER MEMBERS

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