Master of Science Program
in Science and Technology Journalism

College of Veterinary Medicine & Biomedical Sciences
Texas A&M University

Self-Study for Academic Program Review
Spring 2013
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March 22, 2013

The faculty, staff, and students of the Science, Technology and Journalism (STJR) graduate degree program in the College of Veterinary Medicine & Biomedical Sciences (CVM) welcome you to Texas A&M University (TAMU). We are grateful to you for agreeing to serve as external reviewers of our STJR academic graduate program. This will be the first review of the program since its inception in 1996. Since inception, the program originally resided in the Department of Journalism, in the College of Liberal Arts. In 2006, after the journalism department closed, the program moved to the CVM. The current report provides an overview of the program, with emphasis on activities and achievements since 2006.

This year’s review offers us a valuable opportunity to receive external critiques that will help us advance our mission to prepare students extremely well for biomedical science careers and responsible leadership in a global society. The program seeks to provide high-quality training and experience in both communication and science. Thus, each student takes graduate courses in both realms; the degree plan includes 3 required science journalism courses and a variety of electives. The program is small and individualized, with emphasis on providing each student with an educational experience that suits his or her background, interests, and goals.

We recognize that this review takes a significant amount of time and effort on your part. We sincerely thank you for accepting the university’s invitation to conduct the review and look forward to receiving your valuable comments. Please feel free to contact me if you have any questions or need information that is not contained in this report.

Sincerely,

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Charge to the Peer Review Team  
Science & Technology Journalism  
Academic Program Review

Thank you for assisting us with continuous quality improvement of our graduate program in Science and Technology Journalism (STJR) at Texas A&M University. The Academic Program Review (APR) to which you are contributing is part of a periodic review of all Texas A&M University academic programs. APR affords opportunity to assess the standards of our programs and to learn from review team members’ experiences with similar programs. In addition to the charge to the committee, this letter provides you with a brief overview of the academic program offered by the Science and Technology Journalism Master’s Degree Program.

Peer Review Team Charge
The review team is charged with examining the program listed above and making recommendations that we may use to inform continuous quality improvement processes. Resources that you will have for this assessment are a self-study to be completed by the Program Chair, other materials that may be provided by our office, information you gain through personal interactions while visiting Texas A&M University, and any additional information that you request. Within the broad charge of informing continuous quality improvement are the following specific questions that we would like you to address:

1) While evaluating the program, please consider the resource context within which the Program operates (both human and fiscal) and the absolute level of support the program receives from the university. Please comment on the overall efficiency and effectiveness of the program’s use of these human and fiscal resources in pursuit of its mission.

2) Please address the following questions about assessment of learning outcomes:
   a) Has the department identified specific learning outcomes for its educational programs?
   b) Please comment on the appropriateness of these learning outcomes for this program.
   c) Does the curriculum and instruction afford students opportunity to achieve the learning outcomes?
   d) Does the program have a written plan for assessment of its identified learning outcomes? Is that plan of acceptable quality? Are the metrics used for assessment appropriate and of acceptable quality?
   e) To what extent is the Department successful in achieving its learning outcomes?
   f) Does the learning outcome assessment process inform continuous quality improvement?

3) Please share with us any strengths, weaknesses, opportunities, and threats related to the current and future quality of each or all of these academic programs.

4) Please comment on the scope, efficacy, and desirability of current and potential collaboration of this department with other departments and groups, both on campus and off.

5) Please provide us your team’s judgment on the national ranking of this Program, as a percentile rank. For example, is this Program in the top 5% of programs science and technology journalism nationally? Top 10%? Top 50%?
6) Please address the program’s contributions to two guiding strategic initiatives developed by Texas A&M University. The first of these is a document developed in 1999, entitled *Vision 2020: Creating a Culture of Excellence*, and identifies twelve specific areas of focus for Texas A&M’s future. The other is the more recent *Action 2015*, intended to build on our gains made since the inception of Vision 2020. Both documents may be referenced at [http://provost.tamu.edu/strategic-planning-2010](http://provost.tamu.edu/strategic-planning-2010). Summaries of both documents will be provided upon your arrival at Texas A&M University.

### Overview of the Program

The MS program in science and technology journalism prepares students for careers as writers and editors specializing in communication of science, technology, and medicine. It also can serve as background for related careers and preparation for doctoral study. Implemented in 1996, the program originally resided in the journalism department, in the College of Liberal Arts. In 2006, after the journalism department closed, the program moved to the College of Veterinary Medicine and Biomedical Sciences.

The program seeks to prepare graduates solidly grounded in both communication and science. Thus, each student takes graduate courses in both realms. The degree plan includes required science journalism courses and a variety of electives. Students choose between an internship track and a thesis track; most pursue the internship track. The program is small and individualized, with emphasis on providing each student with an educational experience that suits his or her background, interests, and goals.

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We look forward to meeting with the review team for Science and Technology Journalism. If you have any questions or require additional information prior to your visit, please contact Dr. Pamela R. Matthews, Vice Provost, at p-matthews@tamu.edu or Ms. Patti Urbina, APR Program Coordinator, at p-urbina@tamu.edu. Thank you.
Executive Summary

The MS program in science and technology journalism (STJR) at Texas A&M University was implemented in 1996. Originally it resided in the Department of Journalism in the College of Liberal Arts. In 2006, after the journalism department closed, the program moved to the College of Veterinary Medicine & Biomedical Sciences (CVM).

The program seeks to prepare graduates solidly grounded in both communication and science. Thus, each student takes graduate courses in both realms. Students choose between an internship track and a thesis track; most pursue the internship track. Students in the thesis track must complete 32 credit hours, and those in the internship track must complete 36 hours. Median times for completing the program are about 2.5 years for students in the thesis track and slightly less than 2 years for those in the internship track. The program is small and individualized, with emphasis on providing each student with an educational experience that suits his or her background, interests, and goals.

The STJR program is aligned in multiple ways with the Texas A&M University document Vision 2020: Creating a Culture of Excellence and the Texas A&M University Academic Master Plan. The design of the program is conducive to the learning outcomes noted in the master plan as being for all master’s graduates. Also, the program has regularly been exceeding the achievement targets set for it in the WEAVEonline assessment tracking system of Texas A&M University.

One professor (Barbara Gastel, who has a 75% appointment at the CVM and a 25% appointment at the College of Medicine) coordinates the program and teaches all the STJR courses. However, a wide array of faculty members, professional communicators, and others contribute to the education of the students, for example by teaching electives in which some STJR students enroll, serving on graduate committees, supervising the students as graduate assistants or interns, or serving as guest speakers.

The program does not receive university funds specifically for it. Most of the students do, though, receive financial support, almost solely as assistantships. Salary savings from the program coordinator’s involvement in AuthorAID (a project to help developing-country researchers write about and publish their work) fund some of the assistantships. Other funds generated by the program coordinator, for example through a summer course for international researchers, are used for student travel and incidental program expenses.
The program has a strong record, especially regarding diversity, retention, and graduates’ career success. In particular:

- Of the students who have entered since 2006, 16 have been from the United States and 12 from other countries. Among the US students, 8 had bachelor’s degrees from Texas A&M and 8 from other universities and colleges throughout the United States. Of the 12 international students, there were 5 from India, 2 from China, and 1 each from Ghana, Mexico, Nigeria, Spain, and Taiwan.

- Most entering students majored in science as undergraduates. In all, 12 of the 28 had previous graduate or professional degrees. Almost all of the students have been full time.

- Student retention in the program has been high. Among the 28 students, 19 have graduated; 1 was dismissed because of repeated failure to complete courses; and 8 are on track for graduation.

- Of the 19 graduates, 2 pursued the thesis track and 17 the internship track. One thesis focused on science journalism in Ghana, the other on best practices in mental-health reporting. About half of the internships completed or in progress have been at Texas A&M or associated entities and about half elsewhere in the United States. Examples of the internship sites include the American Geophysical Union, the journal Emerging Infectious Diseases, Fermilab, MD Anderson Cancer Center, NOVA, Texas A&M engineering communications, the Texas A&M news and information services, and the Texas Water Resources Institute.

- The program is in touch with 18 of the 19 STJR entrants since 2006 who have graduated. Among them, 6 graduates, including the 2 from the thesis track, are studying for doctoral degrees. The other 12 are working in science communication or allied fields; half are working in Texas and half elsewhere. Examples of current positions include Communications Coordinator, Engineering Student Services and Academic Programs, Texas A&M University; Medical Writer, John M. Eisenberg Center for Clinical Communications Science, Baylor College of Medicine (Houston, TX); Web Content Manager, International Centre for Theoretical Physics (Trieste, Italy); Scientific Communications Officer, Center for the Advancement of Science in Space (Houston, TX); Assistant Manager, Water Science & Engineering Center, Water Environment Foundation (Alexandria, VA); Communications Specialist, Texas A&M University College of Veterinary Medicine & Biomedical Sciences; Science Outreach Coordinator, Operation IceBridge, NASA Goddard Space Flight Center (Greenbelt, MD); Editor/Translator, Universidad Autonoma de Nuevo Leon (Mexico); and Senior Technical Writer, MD Anderson Cancer Center (Houston, TX).

Looking ahead, the program faces a variety of issues, some of which are specific to it and some of which seem common to many programs. These issues include the following:
Program staffing and leadership: The STJR program is understaffed, even for a small program. To be sustainable, it needs more faculty, at least part time. (2) Program finances: The program is operating with minimal funding, much of which is generated by the coordinator’s other work. If the program is to continue long term, funding must be planned for. (3) Curriculum: Like other science journalism programs, the STJR program faces questions of curriculum as the media change and the job market changes. The STJR program has long prepared students broadly for careers combining communication and science; thus, it has been adaptable to changes in the job market, such as the decrease in newspaper science reporting jobs. Like others, we are exploring how to integrate instruction on such topics as use of social media in science communication. (4) Face-to-face versus online instruction: Like graduate programs in various fields, the STJR program faces the issue of whether to remain very largely face to face, move to a largely online model, or provide a considerable mix. Each approach has both advantages and limitations. (5) Program title: Because of its origin in a journalism department, the program is titled Science and Technology Journalism. However, few who enter the program are seeking journalism careers per se, and the title may be misleading. If retitling the program is permissible, doing so might deserve consideration.

In sum: Despite limited resources, the STJR program has been preparing students successfully for careers in the communication of science in Texas and elsewhere and has been serving as a foundation for doctoral study. We are grateful for the insights gained and ideas generated through the current review process, and we look forward to next steps. Given the crucial need for a scientifically and technologically informed public, and given the central role of communication in continued advancement of scientific and technical fields, we very much hope that this program will receive the support it needs to flourish and further develop in the coming years.

Introduction

The MS program in science and technology journalism (STJR) at Texas A&M University is designed to prepare students for careers as writers and editors specializing in communication of science, technology, and medicine. It also can serve as background for related careers and preparation for doctoral study. Implemented in 1996, the program originally resided in the Department of Journalism, in the College of Liberal Arts. In 2006, after the journalism department closed, the program moved to the College of Veterinary Medicine & Biomedical Sciences (CVM).

The program seeks to prepare graduates solidly grounded in both communication and science. Thus, each student takes graduate courses in both realms; the degree plan includes 3 required science journalism courses and a variety of electives. Students choose between an internship track and a thesis track; most pursue the internship track. The program is small and individualized, with emphasis on providing each student with an educational experience that suits his or her background, interests, and goals.
The current report provides an overview of the program, with emphasis on the years since 2006. It begins by summarizing the history of the program, discussing the program goals and their alignment with university directives, and describing the curriculum. It then identifies the faculty and other program resources. Next comes information on admissions, student characteristics and performance, and outcome. The report ends by discussing some issues that the program faces as it prepares for the coming years.

History

Journalism teaching at Texas A&M University began in 1918, and the Department of Journalism was established in 1947. Attempts to establish an MS program in journalism apparently began in the 1970s. When approval from the Texas Higher Education Coordinating Board (THECB) did not materialize, the department eventually decided to propose a specialized program in science and technology journalism. This choice was logical, given the university’s longstanding strength in science and technology, the lack of science journalism graduate programs in the state and region, and the demand in Texas and elsewhere for individuals skilled at writing and editing material on science, technology, and medicine. Starting in the late 1980s, faculty members were recruited with an eye toward contributing to the envisioned STJR master’s program. Thus, in particular, Susanna Hornig (now Susanna Hornig Priest) and Barbara Gastel joined the faculty in 1989; Hornig brought an emphasis on research and Gastel a more applied perspective. Ultimately the coordinating board approved the MS program in spring 1995; the first students entered in fall 1996. As shown by the executive summary of the proposal to the THECB (Appendix A), from the outset the program included a thesis track and a non-thesis (internship) track, required that each student take graduate courses in science or technology, and contained largely electives.

Gastel coordinated the MS program from the time of its approval until 1999, when she became interim head of journalism department for 2 years. Priest then coordinated the program from 1999 until 2004, when the Department of Journalism closed and Priest departed for a faculty position at another university. With closure of the journalism department, which had faced an array of challenges over the years, admission to the STJR program was suspended. The undergraduate major in journalism was discontinued, and the journalism minor was redesigned and moved to the Department of Communication. Agricultural-journalism instruction, which had been provided jointly by the journalism department and the College of Agriculture and Life Sciences, moved solely to the latter.

With closure of the journalism department, which had been in the College of Liberal Arts, most of the several tenured faculty and senior lecturers in journalism moved to other parts of the university. Gastel was recruited by what is now the Department of Veterinary Integrative Biosciences, a highly interdisciplinary department in the CVM. In addition to training veterinarians, the CVM has active graduate programs and houses the undergraduate biomedical sciences (BIMS) major, which has 1800 students and thus is usually the largest major at the university. Texas A&M was instituting a requirement for
each undergraduate to take 2 writing-intensive courses in his or her major, and Gastel was recruited to the CVM in part to develop the main writing-intensive courses for BIMS majors; these courses now are taught by full-time lecturers.

With Gastel’s arrival at the CVM in 2004, paperwork was begun to transfer the STJR program and the courses associated with it to the CVM. The transfer of the program became effective in 2006. Gastel served as program coordinator during the time of transition and remains in the role. The first students to enter the program after its transfer began in fall 2006. The program is CVM-wide rather than being in any one department. However, it is located operationally in the Department of Veterinary Integrative Biosciences.

During the years in the journalism department, the number of entrants to the program per year generally was about 5 to 10. Priest and Gastel taught in the program, as did some other faculty members, including one who repeatedly taught the required course in research methods. Students who viewed the program as preparation for doctoral work pursued mainly the thesis track, generally under the supervision of Priest or other faculty with a research emphasis; those seeking careers in science writing or science editing pursued mainly the internship track, under supervision of Gastel or other faculty oriented primarily to application. Follow-up of graduates from the journalism department years is incomplete. However, it is known that some students from the program went on to doctoral programs in fields such as mass communication, health communication, and agricultural communication and then obtained faculty appointments or positions in applied research. Among positions currently held by students from early in the program who entered careers in writing or editing are deputy managing editor of *Science News*, science reporter at the *Washington Post*, senior editor at *Chemical & Engineering News*, director of public relations in the provost’s office at the University of Georgia, vice president for healthcare at a major public relations firm, editorial manager at the Texas A&M College of Engineering, editor at the National Council of Teachers of Mathematics, and editor of *StarDate* magazine/press officer for the McDonald Observatory. Some early graduates have been pursuing active freelance careers in science writing or science editing. Information on the program and graduates from 2006 onward appears later in this report.

**Goals**

The executive summary of the proposal, submitted in 1994, for the MS program in science and technology journalism stated the primary objectives as follows:

1. to prepare students for careers as science and technology writers, reporters, and editors in the mass media and in industry, 2. to enable scientists, technologists, and science and technology leaders to communicate more effectively with persons outside their fields, and 3. to create and sustain a research and communication environment that brings together journalists and
scientists in the pursuit and exchange of knowledge about the communication of scientific and technological information.

Today the goals of the program remain largely the same. However, some slight revision seems justified for at least 2 reasons. First, and most important, the science communication environment has changed over the past 2 decades—for example, with the decline in newspapers, emergence of online media, and increasing emphasis on specialized publications. Also, now that the program no longer is in a journalism department, a broad conception of science and technology communication seems even more appropriate than before. Thus, perhaps the objectives could be updated to read along the following lines:

(1) to prepare students for careers in science and technology communication—especially writing and editing—in the mass media, in specialized media, and in institutional and other settings, (2) to enable scientists, technologists, and science and technology leaders to communicate more effectively with persons outside and within their fields, and (3) to create and sustain a research and communication environment that brings together professional science communicators and scientists in the pursuit and exchange of knowledge about the communication of scientific and technological information.

From the beginning, the STJR program has emphasized objective (1). Information later in this report seems to substantiate that the program has been reasonably effective in achieving this objective. Objective (2) has received less emphasis. However, it seems to be achieved to some extent. For example, some graduate students in other fields—such as biotechnology, veterinary science, and medical science—take one or more of the STJR courses; also, every summer the coordinator gives a 3-week intensive course in research writing, which is attended both by early and mid-career researchers from a variety of countries and by Texas A&M graduate students in the sciences. Objective (3) has been pursued less vigorously. However, open lectures by visiting science communicators have contributed to this goal, as have informal interactions between program members and science faculty.

Alignment with Texas A&M University Directives

The STJR program is aligned in a variety of ways with the Texas A&M University document *Vision 2020: Creating a Culture of Excellence* and more specifically with the *Texas A&M University Academic Master Plan*. Staffing and college funding of the program are minimal, which limits its reach within the framework of Vision 2020, but the program could be expanded if desired.

In particular, with regard to Vision 2020:
- The imperative most relevant to the STJR program is Imperative 5, “Build on the tradition of professional education.” The STJR program is very largely a
professional education program, and it has been successfully producing professionals in science and technology communication. A possible asset is that the program’s coordinator, who has MD and MPH degrees and has been assistant dean of a medical school, brings broad familiarity with professional education. Like other professional programs, the STJR program emphasizes not only obtaining knowledge and skills but also cultivating professional attributes and preparing for lifelong learning.

- Also relevant is Imperative 6, “Diversify and globalize the A&M community.” Of the 28 students who have entered the program since 2006, 12 have been from countries other than the United States. Of the 12, there have been 5 students from India, 2 from China, and 1 each from Ghana, Mexico, Nigeria, Spain, and Taiwan. This diversity has enriched the STJR program, and because few countries have graduate programs in science journalism, inclusion of these students seems to be an international service. The program coordinator’s longtime active involvement in projects such as AuthorAID (www.authoraid.info), which is designed to help researchers in developing countries to write about and publish their work, also has contributed to pursuit of Imperative 6.

- The program also contributes to achievement of Imperative 9, “Build community and metropolitan connections.” In part because of its professional nature, the program has built, and continues to build, community and metropolitan connections. Professional science communicators at Texas A&M University and elsewhere in Bryan/College Station often speak in STJR classes, host STJR students as interns, and interact with the program in other ways; when seeking new employees, they commonly contact the program for candidates. Likewise, connections exist in Houston and other metropolitan areas of the state. In particular, there are longstanding collegial ties with writers and editors at the Texas Medical Center, a huge complex encompassing multiple medical institutions in Houston. Thus, for example, the program was consulted extensively in developing an editorial internship program at the MD Anderson Cancer Center.

- Two imperatives that are relevant and merit more attention are Imperative 1, “Elevate our faculty and their teaching, research, and scholarship,” and Imperative 2, “Strengthen our graduate programs.” With the dissolution of the journalism department, the number of faculty members with direct major involvement in the STJR program has decreased. Although we believe that the quality of instruction remains high, the number of students in the program has decreased, as has the amount of research associated with faculty in the program. If the program and its output are to grow, additional resources will be needed.

The university master plan has identified 9 “university learning outcomes for all master’s graduates.” These outcomes are listed below. Each is followed by a comment on its achievement in the STJR program.

- Master the degree program requirements, including theories, concepts, principles, and practices, and develop a coherent understanding of the subject matter through synthesis across courses and experiences.
We believe that all graduates of our program have been achieving this outcome. The students in the internship (non-thesis) track, which most students pursue, must demonstrate their mastery and integration of program content by completing an internship, preparing an internship portfolio, giving an internship presentation, and passing a final comprehensive examination (a written examination, consisting of two 3-hour parts, with questions contributed by the student’s advisory committee members). The students in the thesis track must demonstrate their mastery and integration by successfully preparing and defending a thesis. During the period of this self-study (2006 to present), all students in both tracks have been meeting these criteria, in addition to successfully completing the required courses.

- Apply subject matter knowledge in a range of contexts to solve problems and make decisions.
  We believe that graduates of this program have developed this capacity. Within the program, a variety of writing assignments and discussions foster the ability to solve problems and make decisions. The internship or thesis experience also provides supervised practice in problem-solving and decision-making. Most students in the program have assistantships, which also offer guided practice in these realms. In addition, the individualized nature of the program, with frequent one-on-one discussions with the coordinator, fosters guidance in and modeling of problem-solving and decision-making.

- Use a variety of courses and evaluate multiple points of view to analyze and integrate information and to conduct critical, reasoned arguments.
  The program—in which each student takes courses in science journalism and in science—suits this outcome well. Assignments call on students to write about scientific findings and issues. Gathering, critically evaluating, and integrating information are repeatedly emphasized and practiced, including with regard to issues in both science communication and science.

- Communicate effectively.
  Effective communication is the central emphasis of this program. Thus, information on how this outcome is fostered appears throughout the current report.

- Use appropriate technologies to communicate, collaborate, conduct research, and solve problems.
  Use of suitable technologies in communicating about science and technology is a frequent topic of reading and discussion in the program. The students apply some of these technologies in their assignments. Further, through internships the students receive practice applying these technologies, including social media, in professional settings and learn additional technologies, such as software programs for specific communication tasks. With communication technology rapidly evolving, continual vigilance is needed regarding this objective.
• Develop clear research plans and conduct valid, data-supported, theoretically consistent, and institutionally appropriate research.

This objective applies most directly to the few students in the thesis track of the STJR program. The students in this track are achieving this objective, as indicated by the successful completion and defense of their theses, the development of publishable material, and subsequent success in doctoral programs. Students in the non-thesis track, too, seem to develop this capacity at least to some degree. All students—in both tracks—take a research methods class, so that every graduate at least has some ability to understand and evaluate communication research and related research. Some students even in the internship track go on to doctoral programs, for which this research background serves as a foundation. Also, students leave with the capacity to do or collaborate with others on applied research in professional contexts.

• Choose ethical courses of action in research and practice.

Ethics is emphasized throughout the program. Not only is it a topic in courses, but also ethical aspects are commonly addressed in discussions of science-communication situations, including the students’ own experience. In classes and one-on-one discussions, the students often raise questions regarding the ethics of courses of action. Discussions of ethical issues that arise continue during the students’ internships or thesis research. The program emphasizes and tries hard to model integrity, and we are proud of the professionalism shown by our students and graduates.

• Demonstrate social, cultural, and global competence, including the ability to live and work effectively in a diverse and global society; articulate the value of a diverse and global perspective; and recognize diverse economic, political, cultural, and religious opinions and practices.

The program attracts a diverse group of students. As well as coming from various countries and regions and having varied religious backgrounds, the students come from varied academic disciplines, are at different career stages, and bring a variety of views. The presence of students from other graduate programs in science journalism courses increases the diversity. Also, students in the program expand their perspective, and meet students and faculty from various countries and professional cultures, by taking courses outside the program. In addition, the program coordinator has long been active in projects to promote the international communication of science and travels widely for this work; she brings this perspective to her teaching and advising, and students have chances to take part in this work through assistantships and in other ways. Thus, various aspects of the program contribute heavily to achieving this objective.

• Prepare to engage in lifelong learning.

Lifelong learning is inherent in a career in the communication of science and technology. To succeed, one must keep up with technological and other changes in communication fields, as well as continually learning about science and technology as they advance. In entering our program,
students often emphasize that they want to be in a field in which they can be always be learning. We believe that through the mix of science journalism and science courses, the emphasis on information-gathering skills and critical evaluation, and the practice that students receive in learning on their own for class projects and for internships and theses, the students develop a foundation for and habits of lifelong learning. The program also introduces students to professional resources, such as science writers’ organizations, that facilitate lifelong learning; it encourages their involvement in such organizations, for example by providing funding for each student to attend one professional conference per year.

As required, the STJR program has been providing outcome information annually for entry into the WEAVEonline assessment tracking system of Texas A&M University. The achievement targets that have been established for the program are as follows:

- At least 80% of all students will produce evidence of professional level journalistic writing or editing.
- At least 80% of thesis-option students will produce publishable research results.
- At least 90% of thesis-option students will demonstrate their knowledge by successfully defending their thesis. At least 90% of non-thesis option students will pass a comprehensive final examination.

The program has regularly been exceeding these targets.

Curriculum

The curriculum of the MS program in science and technology journalism is intended to produce graduates with strong foundations in both science journalism and science. It also is intended to be relatively flexible, in order to accommodate students with varied backgrounds, interests, and professional goals.

Students choose between a thesis option and a non-thesis option. Normally the choice is made during the student’s second semester. In the thesis option, the student completes 18 credit hours of course work in science and technology journalism or related fields, 6 credit hours of course work in science, and 8 hours of thesis research, for a total of 32 hours. The non-thesis option entails 36 credit hours, which can be distributed more flexibly. Students pursuing this option must complete 18 credit hours of course work (including a 3-credit-hour internship) in science and technology journalism or related fields and 6 credit hours of course work in science; the remaining 12 credit hours can be drawn from courses in science and technology journalism, science, and other professionally relevant fields, such as history of science. A checklist used to help students plan their curricula is provided as Appendix B.

The proposal for the STJR program specified only 1 course, Issues in Science and Technology Journalism, as required; other STJR courses were listed as designated
electives. However, as the program was being established, the required core was expanded to encompass 3 courses:

- Issues in Science and Technology Journalism
- Reporting Science and Technology
- Research Methods in Science and Technology Journalism

These 3 courses remain required. The first 2 are offered every fall semester, and the third is offered every spring semester. Students normally take all 3 courses in their first year. Recent syllabi for these 3 courses appear in Appendix C.

In addition, the program includes the following electives in science and technology journalism:

- Biomedical Reporting
- Risk and Crisis Reporting
- Science Editing

The frequency with which the first 2 courses are offered depends on student demand; the former tends to be offered about once a year and the latter less often. The science editing course is given every summer; students unavailable during the summer can take it as a one-on-one tutorial during the school year. For flexibility in scheduling, the science editing course has remained a “directed studies” course since its inception soon after the advent of the program. However, almost every student takes it, and students have repeatedly suggested making it part of the required core. Students also can take individualized directed studies courses in which they explore and receive experience in aspects of science and technology journalism of particular interest to them. Sample syllabi for the STJR electives appear in Appendix D. A sheet stating internship requirements is provided as Appendix E.

For their other course work, students choose from many courses that Texas A&M University offers in communication, science, and other relevant fields. Students choose these courses in consultation with the STJR program coordinator. Depending on their interests and goals, some students take all their science electives in a single field, such as biomedical science; others do so in a variety of fields. Appendix F lists the non-STJR courses taken by students in the program since 2006 and indicates the number of students who have taken each.

The university requires each student to submit a degree plan before registering for a third term of classes. This degree plan lists courses taken and to be taken. It also lists and is approved by the student’s graduate committee, which consists of 3 faculty members of the student’s choice, with approval by the program coordinator and department head. Each student’s committee consists of a chair, who must be from the CVM; another member from the CVM; and a member outside the CVM. In addition to approving the student’s course choice and providing general guidance, the committee supervises and evaluates the student’s thesis and defense (if the student is in the thesis track) or provides questions for and evaluates performance on the student’s final comprehensive examination (if the student is in the non-thesis track). Members of students’ graduate committees since 2006 are listed in Appendix G.
The curriculum of the program is somewhat distinctive. Especially with regard to its core, some similarities exist with curricula of other graduate or certificate programs in science journalism or, more generally, science writing. However, an outside observer has noted that the program also has similarities with some graduate or certificate programs in technical or other specialized communication. Also, with regard to the ability to take science and other courses of one’s choice, the program resembles some mid-career fellowship programs, such as the Knight science journalism fellowship program at MIT and the Nieman fellowship program at Harvard.

For comparison, Appendix H presents curricular information on a variety of US graduate and certificate programs in science communication. Although a large proportion of these programs are in colleges of journalism or the equivalent, some, like ours, are in university components concerned primarily with science or health. Time for completion of most programs seems to be about 2 years, but some programs last a single year. The number of required, rather than elective, courses tends to be higher than in ours; in some programs, students take very few or no electives. Some programs are in specialized fields such as health writing or environmental writing. Most programs require a thesis, internship, or other type of final project. The technical and specialized communication programs that we looked at (Appendix I) tend, like ours, to include instruction in editing. However, unlike ours, they tend to include instruction in areas such as rhetoric and document design, and some seem geared toward training graduates to prepare specialized technical documentation.

Different programs in science journalism and technical communication seem to prepare students best for different niches. For example, some science journalism programs seem to excel at preparing students for work in the daily news media or the broadcast media, whereas our program does not emphasize such preparation. Likewise, some technical writing programs train students in preparing specific types of technical documentation, whereas the STJR program does not. Our program seems especially suited to preparing students for editorial employment, for work in the specialized media (including trade media), and for roles in the institutional communication of science and technology to general and specialized audiences. Indeed, these areas are ones to which, throughout the history of our program, graduates have tended to gravitate. Fortunately, these areas appear to be among those in science communication in which the hiring market is relatively strong.

**Faculty and Staff**

At present the faculty specifically for the program is very small. However, a wide array of faculty members, professional communicators on campus, and others contribute to the education of the students.
Barbara Gastel, professor of veterinary integrative biosciences and of humanities in medicine, coordinates the program. Since graduating from medical school in 1978, she has pursued a career focusing on communication of science and medicine. Gastel has a 75% appointment at the CVM and a 25% appointment at the College of Medicine. At present she teaches all the STJR courses. She also does some teaching, mainly of medical humanities, at the College of Medicine. In addition, she devotes considerable time to the AuthorAID project, which since its inception in 2007 has been funding part of her salary. She coauthored the 2 latest editions of *How to Write and Publish a Scientific Paper* and expects to be coauthor of future editions; because the primary author has been retired for many years, all new work for the editions has been hers. She also does other writing for professional and other audiences. Her work has been recognized with awards from professional societies, notably the 2010 John P. McGovern Science and Society Award given by the international research society Sigma Xi and the 2012 Texas A&M University Distinguished Service Award for Extension, Outreach, Continuing Education, or Professional Development. Her curriculum vitae is provided as Appendix J.

Many Texas A&M faculty members help educate STJR students by teaching electives in which these students enroll, serving on STJR students’ graduate committees, or supervising them as graduate assistants. Also, Texas A&M and its associated agencies employ numerous science communication professionals; over the years many of these individuals have contributed to the education of STJR students by serving as guest speakers, supervising STJR students in internships and other roles, and providing other mentorship. Appendix K lists examples of faculty members and communication professionals at Texas A&M who have contributed especially much in recent years and provides brief curricula vitae of these individuals.

The program does not have staff members of its own. However, the assistant to the department head and the associated student worker provide administrative support to the program and others based operationally in the Department of Veterinary Integrative Biosciences. This assistance, for example with admissions processing and other paperwork, has been of high quality and is greatly appreciated. In addition, sometimes a graduate assistant from the program helps with items such as the program website.

The department head, Evelyn Tiffany-Castiglioni, who recruited Gastel to the department upon the closure of the Department of Journalism, has been highly supportive of the program. Her advocacy and counsel are deeply appreciated.

**Resources**

Given its nature, the MS program in science and technology journalism does not require extensive facilities and equipment. The faculty member who coordinates the program has an office, computer, and printer. The students with assistantships have workstations in shared offices. Most of the STJR courses are taught in a conference room in a nearby building; some are taught in a small conference room near the coordinator’s office.
CVM recently received authorization to embark on a new teaching building. Plans for the building include office space and teaching space for the STJR program.

The program does not receive any university funds designated specifically for it. Most students do, however, receive financial support, which is almost solely in the form of assistantships. Three graduate students have assistantships in which they help with writing-intensive courses for undergraduate biomedical sciences majors, mainly by providing feedback on required drafts; as well as supplying financial support, these assistantships provide professional experience and additional education in writing. The salary savings from Gastel’s work with the AuthorAID project help fund 1 to 2 graduate assistants, who help with the AuthorAID project and do other work. Also, from 1998 to 2010, when Gastel was editor of Science Editor (the Council of Science Editors periodical), funds from the editorship were used to pay students working for the publication. Because of their science background and communication skills, students in the program tend to be in high demand for assistantships and other work elsewhere in the university. Sites where recent STJR students have held graduate assistantships or similar roles include the university writing center, the university career center, the CVM communication office, the College of Geosciences communication office, and a journal edited by a science faculty member. Some students in the program have received small competitive scholarships from the CVM. Funds generated by the program coordinator, for example through fees that outside researchers pay to attend the summer intensive course, are used to fund student travel and for incidental program expenses.

Admissions

Applicants to the STJR program complete the standard online application for admission to Texas A&M graduate programs. Transcripts, GRE scores, and (if applicable) TOEFL scores are required. In addition, each applicant to the STJR program must submit a curriculum vitae and writing samples. Each applicant also must obtain 3 recommendations. Other than in exceptional circumstances, applicants must meet the Department of Veterinary Integrative Biosciences guidelines for admission: a grade point average of 3.0 or higher (on a scale of 4.0); a total GRE score of 1100 or higher (or its equivalent on the newer GRE); and a TOEFL score of 80 or higher on the IBT, 550 or higher on the PBT, or 213 or higher on the CBT.

Once a candidate’s application materials are complete, the coordinator of the program reviews them and writes a memo summarizing the application and presenting a recommendation. The Department of Veterinary Integrative Biosciences graduate admissions committee then reviews the application and memo and votes on the application; the department head receives the results of the vote and makes the final decision. There is almost always consensus about the decision.

Since 2006, the STJR program has received 41 applications for admission and 2 applications for transfer. Of the 42 candidates (one candidate applied twice and was
admitted the second time), 28 (67%) have entered the program. Communications between prospective candidates and the program coordinator help to ensure that those who go on to apply are truly interested in the program and have the credentials to be seriously considered for acceptance. Ways that prospective applicants learn of the program include the Directory of Science Communication Courses and Programs (dsc.journalism.wisc.edu); Web searches leading to the STJR website (vetmed.tamu.edu/vibs/stjr); publicity at Texas A&M University, for example to undergraduate advisors and to teachers of writing-intensive courses; and word of mouth. Even without extensive recruitment efforts, the pool of applicants has been of high quality and the number of entrants has suited the capacity of the program.

The location of the program has both advantages and disadvantages for recruiting students. One challenge is that some prospective students from other parts of the United States assume that they would not like to be in Texas. Occasionally the program funds visits from accepted candidates from other regions; of the 2 candidates who have made such visits since 2011, 1 is now in the STJR program and 1 entered a program elsewhere. Other disadvantages for recruitment include the fact that the program does not offer courses in some areas, such as broadcast journalism, and the fact that it is not in large urban area with multiple major media. Advantages for recruitment include the large population of Texas to draw on; the desire of many Texas residents to remain in or return to Texas for graduate education (and particularly the desire of many Texas A&M undergraduates to stay at Texas A&M); the international visibility of Texas A&M; the low cost of living in Bryan/College Station; the relatively low cost of attending Texas A&M (current tuition and fees total about $3,200 per semester for a typical graduate student); and, unlike in some science journalism programs, availability of assistantships. Other attractions of the program include the flexible, individualized curriculum; flexibility in admission dates; and location of the program at the CVM, where science journalism students are embedded in an active clinical and basic-science environment and have ready access to research seminars and other offerings.

Student Profile

Each of the first 2 academic years after transfer of the program to CVM, 2 students entered the program. The numbers of new students the next 3 years were, respectively, 7, 6, and 3. Last year 4 students entered the program, and this year 4 students did so. As students generally complete the program in about 2 years, there tend to be about 8 students at any given time. This number suits the current capacity of the program, as it yields a student-to-faculty ratio of about 8 to 1. The number of entrants per year appears to be within the usual range for programs in the field; the relatively large programs seem to have about 10 entrants per year and the small programs fewer than 5 entrants per year.

Of the 28 students entering the program since 2006:
• There have been 23 women and 5 men. This gender distribution seems fairly consistent with that in the science communication field and in other educational programs in such disciplines.
• There have been 16 US and 12 international students. Of the US entrants, it appears that all were white non-Hispanic. Almost all of the US entrants either were Texas residents at the time of admission or had some Texas roots.
• Of the US entrants, 8 had bachelor’s degrees from Texas A&M and 8 had bachelor’s degrees from elsewhere. One entrant each came from Brandeis University, Cornell University, Manhattan College, Newbury College, The Ohio State University, Pomona College, the University at Albany, and the University of Houston.
• As noted elsewhere, of the international entrants, there have been 5 from India, 2 from China, and 1 each from Ghana, Mexico, Nigeria, Spain, and Taiwan. The proportion of international students has decreased since the program’s early years at the CVM. However, given the small numbers in the program, it is hard to determine whether this difference represents a trend or simply normal fluctuation.
• The entrants have ranged from new college graduates in their early 20s to individuals in their early or mid 30s. Some entrants have had multiple years of job experience.
• Most students entering the program majored in science as undergraduates. Majors in biological or biomedical fields were most common; other majors included English, journalism, international studies, philosophy, and physics. Regardless of major, entrants commonly had done substantial amounts of course work both in science and in journalism or English.
• In all, 12 of the 28 entering students have had previous graduate or professional degrees. There have been 10 students with previous master’s degrees, mainly in biology and related fields; 1 with a pharmacy degree; and 1 with an MD degree. Further information on STJR students’ previous education appears in Appendix L.

Information on grade point average (GPA) at time of entry is available for US students entering the program since 2006. Variations in methods of computation preclude providing exact statistics. However, it appears that the median entering GPA has been about 3.5 and that only 1 student had an entering GPA below 3.0.

Texas A&M University tracks the average GRE scores of students graduating each academic year. During the last 4 graduation years of students who entered the STJR program while it was in the journalism department, average GRE scores ranged from 1136 to 1251, with a median of 1175. For 2007–2008 (the first year with graduates since transfer of the program to the CVM) through 2011–2012 (the most recently completed academic year), average total GRE scores ranged from 1180 to 1348, with a median of 1210. Thus, GRE scores seem to be at least as high as before.

Almost all students entering the program since 2006 have been full time; 1 student pursued the degree part time while working full time. A sizeable majority of students in the program since 2006 have had assistantships, and 1 student attended the program as a
Fulbright scholar. Of considerable help, students with assistantships can pay tuition at the resident rate regardless of whether they are classified as Texas residents. Intermittently, the university has paid the tuition of students with assistantships.

**Student Performance in the Program**

Student retention in the program has been high. Of the 28 students entering the program since 2006, a total of 19 have now graduated; 1 student, who repeatedly failed to complete courses, was dismissed; and 8 students, all of whom entered in Fall 2011 or later, are now in the program. Thus, the retention rate has been at least 95%.

Of the 19 graduates from the program, 2 pursued the thesis track and 17 the non-thesis (internship) track. Currently, 1 of the 8 students in the program plans to enter the thesis track. Of the internships completed thus far or now in progress, about half have been at Texas A&M University or associated entities, and about half have been elsewhere in the United States. Thesis titles and internship sites appear in Appendix M.

The number of degrees per academic year since transfer of the program to the CVM has been as follows: 0, 1, 1, 4, 8, 4. Thus far, 1 student has graduated during the current academic year; 2 or 3 other students are expected to graduate by the end of this academic year. The Texas Higher Education Coordinating Board requires a minimum of 15 degrees over a 5-year period in order for a master’s program to be offered.

Among the 19 students who have graduated thus far, the final grade point averages have been as follows:

<table>
<thead>
<tr>
<th>GPA</th>
<th>No. of Students</th>
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<tbody>
<tr>
<td>4.00</td>
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<td>3.25–3.49</td>
<td>2</td>
</tr>
<tr>
<td>3.00–3.24</td>
<td>1</td>
</tr>
</tbody>
</table>

Thus, the students have tended to do very well academically.

For the 19 students who have graduated thus far, time to graduation has been as follows:

- **Thesis track**
  - 2 calendar years + 1 semester: 1
  - 2 calendar years + 1 summer + 1 semester: 1

- **Non-thesis (internship) track**
  - 1 calendar year + 1 semester: 2
  - 1 calendar year + 1 summer + 1 semester: 1
Thus, each of the 2 thesis-track students completed the program in about 2.5 years. Time to completion for full-time students in the non-thesis (internship) track ranged from 1 calendar year plus 1 semester to 2 calendar years plus 1 semester; the median and the mode were 1 calendar year plus 2 semesters.

Follow-up of Graduates

The program remains in touch with the 19 STJR entrants since 2006 who have now graduated. In all, 18 responded to the request for follow-up information that went out in February 2013. Information on academic and professional activities since graduation appears, in the form of a table, as Appendix M. To summarize, of the 18 respondents:

- A total of 6 (represented in yellow in the table), including the 2 from the thesis track, are pursuing doctoral degrees. Of the 6, a total of 5 are in programs at Texas A&M; the doctoral fields are communication, health communication (2 students), public health with emphasis on health promotion, and statistics. One graduate is a doctoral student in journalism at the University of Missouri. All 6 are international students, and all entered doctoral programs immediately after receiving their STJR degrees.

- The other 12 (represented in blue) are working in science communication or allied fields. Their current positions are as follows:

  - Communications Coordinator, Engineering Student Services and Academic Programs, Texas A&M University
  - Medical Writer, John M. Eisenberg Center for Clinical Communications Science, Baylor College of Medicine (Houston, TX)
  - Web Content Manager, International Centre for Theoretical Physics (ICTP) (Trieste, Italy)
  - Freelance Writer and Editor (San Diego, CA)
  - Scientific Communications Officer, Center for the Advancement of Science in Space (CASIS) (Houston, TX)
  - Assistant Manager, Water Science & Engineering Center, Water Environment Foundation (Alexandria, VA)
  - Communications Specialist, Texas A&M University College of Veterinary Medicine & Biomedical Sciences
  - Freelance Writer, with Science and Technology Emphasis (Spain)
  - Science Outreach Coordinator, Operation IceBridge, NASA Goddard Space Flight Center (Greenbelt, MD)
  - Scientific Editor and Translator, Universidad Autonoma de Nuevo Leon (Mexico)

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Half of these 12 are working in Texas and half elsewhere. With regard to employment within 1 year after graduation, the distribution is as follows: 7 had full-time positions in the field within 1 year, 3 were freelancing or doing short-term work (2 of these are now employed full-time in the field), 1 continued in her existing job (and later took a job in the field), and 1 was doing a year-long science communication internship (and then took a job in the field).

The recent graduates and earlier graduates serve as resources for the program. For example, they often are guest speakers, either in person or by distance media; they alert the program to job openings and other opportunities; and at least one has supervised an intern from the program. The program also tries to remain a resource for graduates, for example by serving as a clearinghouse for information on opportunities.

Issues for the Future

Despite limited resources, the MS program in science and technology journalism at Texas A&M University has been successful in the years since its transfer to the College of Veterinary Medicine & Biomedical Sciences. In keeping with its mission, it does seem to be preparing students for careers in the communication of science in Texas and elsewhere and serving as a foundation for doctoral study for some students. Looking ahead, it faces a number of issues, some of which are specific to its situation and some of which seem common to many programs. The main such issues are noted and briefly discussed below.

Program staffing and leadership: The STJR program is understaffed, even for a small program. One faculty member, who also has commitments outside the program, coordinates the program, teaches the 3 required courses, and teaches elective courses. Although this faculty member hopes to keep working indefinitely, she is approaching the usual retirement age range and will not be available forever. Addition of more science communication faculty would enrich the students’ experience, allow the program coordinator to have a more balanced and reasonable workload, and provide backup. Granted, it seems unrealistic to expect funding for several faculty members. Perhaps a reasonable model would be to have the following:

- a full-time faculty member who is based primarily in the program, serves as coordinator, and does a substantial amount of the STJR teaching
- a faculty member, divided between the program and another unit such as the communication department, who has particular strength in science communication research and would teach the research methods course and chair the advisory committees of most students in the thesis track
- a faculty member, divided between the program and perhaps the undergraduate journalism-minor program or professional practice, who would teach at least one science reporting course and otherwise provide professional perspective
Another option might be for the third role to be served on a visiting basis by a science writer in residence.

Program finances: The program is operating with minimal funding. The base salary of the faculty member who coordinates the program came with her from the College of Liberal Arts when the journalism department closed, and it is to return to the College of Liberal Arts when she retires or otherwise departs. Also, the program has no designated funds. Funding for student travel, for some of the graduate assistantships, and for incidental expenses comes from the coordinator’s salary savings from external funding and from other funds that she brings in through her work. This funding situation is not sustainable. If the program is to continue in the long term, funding must be planned for.

Curriculum: Like other science journalism programs, the STJR program faces questions of curriculum as the media change and the job market changes. The STJR program has long emphasized broad preparation for careers combining communication and science rather than training of students only to work in science and technology journalism per se. Thus, it has been adaptable to changes in the job market, such as the decrease in newspaper science reporting jobs, and it expects to keep giving students broad preparation. Like others, we are exploring how to integrate items such as instruction in using social media in science communication. Thus far, we have added a little such material to existing courses, had some guest speakers who dealt with such topics, and had students obtain experience in such realms in internships. One question is whether we should devote a course or major part of a course to this realm and, if so, who should teach it. Perhaps this topic and some other specialized topics would be logical ones for online courses offered collaboratively by science journalism programs at various universities.

Face-to-Face versus Online Instruction: Like graduate programs in a variety of fields, the STJR program faces the issue of whether to remain very largely face to face, move to a largely online model, or provide a considerable mix. Thus far, except for occasional tutorial courses by Skype or phone, the instruction has been face to face, in mainly a seminar format. The considerable small-group and one-on-one interaction face to face in the program seems to have advantages; in addition to gaining knowledge and skills, the students develop strong collegial relationships with classmates, and some of the students show marked personal growth that might be less readily fostered in an online setting. However, often candidates who seem very interested in the program do not apply because they lack the geographic mobility to attend. One option might be to continue providing the required courses in person but to offer some electives online. The issue seems to deserve continuing discussion.

Program Title: Because of its origin in a journalism department, the program is titled Science and Technology Journalism. However, few who enter the program are seeking journalism careers in the narrow sense, and some students have said that the word made them question whether the program would suit them. Further, the syntax of the title is awkward. Probably a clearer and more accurate title would be something like Science
Writing and Science Editing. If at least unofficial retitling of the program would be permitted, the choice of title might deserve discussion.

Closing Remarks

We hope that this report has been informative, and we welcome comments from those who read it. We seek to give students excellent preparation for careers in or regarding the communication of science, technology, and medicine, whether they pursue such careers shortly after graduation or first seek doctoral degrees. Any input that can help us to do so is much appreciated.
Appendixes

Appendix A  Executive Summary: Proposal for a Master of Science Program in Science and Technology Journalism, Texas A&M University, Updated and Revised October, 1994

Appendix B  Course Checklist: MS Program in Science and Technology Journalism

Appendix C  Syllabi: Required Courses in Science and Technology Journalism

Appendix D  Syllabi: Elective Courses in Science and Technology Journalism

Appendix E  Internship Requirements

Appendix F  Non-STJR\(^1\) Courses Taken by STJR Students, Fall 2006–Fall 2012

Appendix G  Graduate Committees: STJR Students, 2006 and Later Entry

Appendix H  Master’s and Certificate Programs in Science Communication (Selected)

Appendix I  Master’s and Certificate Programs in Technical and Specialized Communication (Selected)

Appendix J  Curriculum Vitae of Barbara Gastel (Coordinator, STJR Program)

Appendix K  Texas A&M University Faculty and Communication Professionals with Substantial Involvement in the STJR Program (Table and Brief CVs)

Appendix L  Previous Degrees: STJR Students, 2006 and Later Entry

Appendix M  Thesis Titles and Internship Sites: STJR Students, 2006 and Later Entry

Appendix N  Follow-Up: STJR Graduates, 2006 and Later Entry

\(^1\)STJR = Science and Technology Journalism
Appendix A:

Executive Summary: Proposal for a Master of Science Program in Science and Technology Journalism, Texas A&M University, Updated and Revised October, 1994
Executive Summary

Proposal for a Master of Science Program in Science and Technology Journalism

The primary objectives of the proposed M.S. program are (1) to prepare students for careers as science and technology writers, reporters, and editors in the mass media and in industry, (2) to enable scientists, technologists, and science and technology leaders to communicate more effectively with persons outside their fields, and (3) to create and sustain a research and communication environment that brings together journalists and scientists in the pursuit and exchange of knowledge about the communication of scientific and technological information. The program will foster the development of seminars and workshops for mass media and science and technology professionals designed to bridge the distance between the communication orientations of scientists and journalists in Texas and in the nation.

This professionally oriented program has thesis and non-thesis options. Students in both options will complete a required course in Issues in Science and Technology Journalism and at least 15 credit hours of additional science and technology journalism coursework. Students in the thesis option will take an additional six hours of graduate science and technology coursework outside the Journalism Department and complete a thesis for eight credit hours, a 32 hour total. Students in the non-thesis option will take as many as 15 hours of graduate science and technology courses from other departments in the university (e.g., chemistry, biology, computer science, etc) and a three-hour Professional Internship to complete the 36 credit hour program. Students with strong science backgrounds will be encouraged to emphasize journalism coursework; those without a strong science background will be encouraged to emphasize science studies. The program seeks to produce graduates solidly grounded in both science and journalism.

The goal of preparing graduates to interpret science and technology for the general public is immensely important in today's rapidly changing world. The program we are proposing is especially promising in its potential for service to the State of Texas as the state places increasing emphasis on a high-tech economy. Reports from professionals in science and technology fields indicate that job opportunities for well trained science and technology journalists are strong and will increase in the future.

Startup costs for the program will be modest since faculty and equipment are largely in place. There will be need for some faculty release time for course preparation and program administration, for graduate assistants to help full-time faculty in basic journalism laboratory courses, and for the reallocation of a full-time secretary to provide clerical support.
Appendix B:

Course Checklist: MS Program in Science and Technology Journalism
**Course Checklist:**
**MS Program in Science and Technology Journalism**

Note: Up to 9 hours of courses may be at the 300 or 400 (upper undergraduate) level. The remaining course work must be at the 600 (graduate level).

### Internship (Non-Thesis) Option
(total: 36 credit hours)

**Required Science Journalism Core—6 courses (total: at least 18 credit hours)**
- VIBS 657 (Issues in Science and Technology Journalism) (taken the first fall semester)
- VIBS 660 (Reporting Science and Technology) (taken the first fall semester)
- VIBS 658 (Research Methods in Science & Technology Journalism) (taken the first spring semester)
- VIBS 684 (Professional Internship) (taken after at least two semesters)
- (elective in science journalism or a closely related field: _____________________________)
- (elective in science journalism or a closely related field: _____________________________)

**Required Science Core—2 courses (total: at least 6 credit hours) (chosen in consultation with advisor)**
- (course number and title: _____________________________)
- (course number and title: _____________________________)

**Additional Courses—normally 4 courses (usual total: at least 12 credit hours) (Each course can be in science journalism, in science, or in another professionally relevant field, such as history of science.)**
- (course number and title: _____________________________)
- (course number and title: _____________________________)
- (course number and title: _____________________________)
- (course number and title: _____________________________)

### Thesis Option
(total: 32 credit hours)

**Required Science Journalism Core—6 courses (total: at least 18 credit hours)**
- VIBS 657 (Issues in Science and Technology Journalism) (taken the first fall semester)
- VIBS 660 (Reporting Science and Technology) (taken the first fall semester)
- VIBS 658 (Research Methods in Science & Technology Journalism) (taken the first spring semester)
- (elective in science journalism or a closely related field: _____________________________)
- (elective in science journalism or a closely related field: _____________________________)
- (elective in science journalism or a closely related field: _____________________________)

**Required Science Core—2 courses (total: at least 6 credit hours) (chosen in consultation with advisor)**
- (course number and title: _____________________________)
- (course number and title: _____________________________)

**Thesis Research—total of at least 8 credit hours, normally spread over 2 or more semesters**
- VIBS 691 (Research)
Appendix C:

Syllabi: Required Courses in Science and Technology Journalism
VIBS 657.600
ISSUES IN SCIENCE AND TECHNOLOGY JOURNALISM
Fall 2012
Mondays, 9:00-11:45 a.m., VRB 208

This course—which serves in part as a "gateway" to the MS program in science and technology journalism—offers an introduction to major concepts, practices, institutions, and participants in the field. Goals include helping you to begin exploring:

- issues that science writers face in their work
- media coverage of issues in science and technology
- media theory as it relates to science communication
- the scholarly literature on science communication
- career opportunities in science and technology journalism
- opportunities for internships and thesis research
- organizations and publications for science writers

An additional goal is to help you continue developing your writing skill. These goals will be pursued mainly through classroom activities, readings, conferences with the instructor, and writing assignments.

Classroom activities will include presentations, discussions of assigned readings, and workshops based on class members' writing. Because much of your and others' learning will depend on your participation, you will be expected to attend class regularly. Only in exceptional circumstances should anyone miss more than two sessions of the course.

The reading for the course comes largely from five books:

- *Embargoed Science* by Vincent Kiernan (University of Illinois Press, 2006)

Articles and other readings also will be assigned. Most reading assignments are noted on the syllabus below, and others will be announced in class.

Students are expected to meet individually with the instructor twice during the semester for
conferences on their work. One conference should be before mid-semester and the other after. Additional conferences are readily available on request.

The graded assignments for the course, the dates they are due, and the percentages of the baseline grade they will constitute, are the following:

- report on an organization for science writers 9/3 5%
- discussion of an award-winning series 9/10 5%
- points of interest from reading 9/17 5%
- analysis of *On Being a Scientist* 10/1 5%
- points of interest from reading 10/8 5%
- report on three internship portfolios 10/15 10%
- transformative explanation 10/22 5%
- interview report 10/29 15%
- discussion—why assigned articles are among the best 11/5 5%
- discussion—favorite and least favorite articles 11/12 5%
- rewrite of interview report 11/19 5%
- presentation based on final assignment 11/19 10%
- written version of final assignment 11/26 20%

A revised version of the final assignment may be submitted as late as 12/3.

These assignments are explained on the course schedule below. Further information will be available in class.

Grading will be as follows: A+:98, A:95, A-:92, B+:88, B:85, B-:82, etc. For all assignments, both content and crafting will be considered. All writing assignments are to be word-processed and double-spaced, with an unjustified right margin; pages are to be numbered. Writing is to be submitted on time. Except when otherwise specified, please bring copies for the instructor, your classmates, and yourself, as writing assignments generally will be discussed in class.

Final grades for the course will be based on the assignments listed above. In borderline cases, however, outstanding class participation may increase one's grade. Excessive unexcused absences or substantial lateness in submitting work may decrease one's grade.

The success of a course such as this one depends on contributions from the students as well as from the teacher. Suggestions for making the course more educational and more enjoyable are appreciated at any time.

### TENTATIVE SCHEDULE

<table>
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<tr>
<th>Date/Session</th>
<th>Main Topics/Activities</th>
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<tbody>
<tr>
<td>8/29</td>
<td>Introduction: The Participants and the Course</td>
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<tr>
<td>1</td>
<td>A Brief Orientation to the STJR Program</td>
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<td>Discussion: The Scope of the Science-Writing Field</td>
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<td></td>
<td>Presentation: Some Organizations and Publications for Science Writers</td>
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<td></td>
<td>Discussion: Some Issues in Science and Technology Journalism</td>
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</tbody>
</table>
Main Reading Due:
- Embargoed Science: Chapter 1 (“An Overview of News about Science and Medicine”) and Chapter 2 (“A Brief History of Embargoes in Science Journalism”)

[Note: In this course, you are expected to become actively engaged with the reading. As you read, please ask yourself questions such as the following:
- What material in this reading is especially useful, interesting, insightful, or otherwise worthwhile?
- What points in this reading seem debatable? What counter-arguments might be made?
- What research methods did the author use? How valid were those methods? (Or, more broadly: How—and how well—did the author gather the information?)
- What issues do you think the author faced in preparing this reading? How—and how well—do you think the author addressed the issues?
- How well is the item written? If the item is clear and interesting, what aspects of the writing make it so? If the item is confusing or dull, how could it be made more clear or interesting?

Also, please keep notes to use in classroom discussion.]

Writing Due: Report on an Organization for Science Writers
Instructions: Look at the websites of several organizations in science communication, and decide which organization you would most like to join. Then, in about 500 words (2 double-spaced pages), say why you chose the organization you did, and explain how you would use the resources of the organization to help you develop as a science communicator.

[Note: Your writing for this course should be informative, thoughtful, well organized, clear, mechanically sound, and concise. Unless otherwise specified, write for an audience of your peers in this course; please write to communicate, not to impress. When appropriate, feel free to be witty. As noted above, both content and crafting will be considered in grading all assignments. More than one draft is needed for writing to reach the level expected in this course.]
Writing Due: Discussion of the Series Assigned
Instructions: Read and listen to “Poisoned Places,” and look at the accompanying components. In about 500 words (2 double-spaced pages), identify major strengths regarding content and crafting. Support your points with examples or other evidence. If appropriate, relate some of your observations to points in other reading for the course.

9/17 Discussion: Reading for Today
4 Workshop: Writing Assignment Due Today
Main Reading Due:
- *Science in Public*: Chapter 1 (“The Recent ‘Public Understanding of Science Movement’”), Chapter 2 (“Science in Public Culture”), Chapter 3 (“Popular Science: Friend or Foe?”), Chapter 4 (“Popularization, Public Understanding, and the Public Sphere”), and Chapter 5 (“Media Issues in the Public Understanding of Science”)

Writing Due: 10 Points of Interest from the Reading for Today
Instructions: In the reading assigned for today, identify 10 points that you find interesting, useful, or both. For each, say why you find it interesting, how you expect to use this knowledge, or both. This assignment should run about 500 words.

9/24 Discussion: Reading for Today in *Science in Public*
5 Additional Discussion: Science Exhibits and Museums
Introduction to Interview Assignment (due 10/29)
Main Reading Due:
- *Science in Public*: Chapter 8 (“Science in Museums”), Chapter 9 (“Initiatives and Activities in the Public Understanding of Science”), and Chapter 10 (“A Protocol for Science Communication for the Public Understanding of Science”)
- *Encyclopedia of Science and Technology Journalism*: “Science Centers and Science Museums” by David Chittenden, “Science Café” by Maria Powell

Writing Due: (none—it’s time for a break)

10/1 Discussion: Ethics in Science and in Science Communication—Graduate Student and Other Perspectives
Discussion: Writing Assignment Due Today
Main Reading Due:
- *On Being a Scientist: A Guide to Responsible Conduct in Research*, 3rd

- *Encyclopedia of Science and Technology Communication*: “Research Ethics, Overview” by Jason Borenstein, “Conflicts of Interest in Science” by Katherine A. McComas


- selected codes of ethics for professional communicators

**Writing Due: Analysis of *On Being a Scientist* as a Piece of Writing**

Read *On Being a Scientist*, and note aspects of the writing and design that you consider effective, especially in light of the intended audience for this book. If you have suggestions for improving the book, also state them. This assignment should run about 500 words.

10/8

Discussion: Reading for Today

7

Discussion: Internships in Science Communication

Browsing: Some Internship Portfolios

**Main Reading Due:**

- *Communicating Uncertainty*: Chapter 2 ("How Journalists Deal with Scientific Uncertainty" by S. Holly Stocking) and Chapter 4 ("Scientists, Journalists, and the Meaning of Uncertainty" by Sharon Dunwoody)


- some readings about doing internships

**Writing Due: 10 Points of Interest from the Reading for Today**

Instructions: In the reading assigned for today, identify 10 points that you find interesting, useful, or both. For each, say why you find it interesting, how you expect to use this knowledge, or both. This assignment should run about 500 words.

10/15

Workshop: Writing Assignment for Today

8

Discussion: Reading for Today

Introduction: Options for Final Writing Assignment

**Main Reading Due:**

- *Communicating Uncertainty*: Chapter 6 ("Popular Beliefs, Media, and Biotechnology" by Susanna Hornig Priest), Chapter 11 ("The Importance of Understanding Audiences" by Carol L. Rogers), and Chapter 12 ("Effective Explanation of Uncertain and Complex Science" by Katherine E. Rowan)

- *Encyclopedia of Science and Technology Communication*: “Uncertainty in Science Communication” by S. Holly Stocking

- “Uncertainty in Science: It’s a Feature, Not a Bug” by Julia Galef (*The Humanist*, February 2010, pp 10-13)
Writing Due: Report on Three Internship Portfolios
Instructions: Read the internship portfolios submitted by three master’s students in the science and technology journalism program. State the main things that by reading the portfolios you learned (about doing an internship, about science communication, or in other regards). If you wish, also comment on other aspects of the portfolios. This assignment should run about 500 to 1000 words. Please be concise.

Guest Segment(s) by One or More Recent Interns
Workshop: Writing Assignment for Today
Discussion: Reading for Today
Reading Due:
- some magazine articles on issues in science and technology journalism
- more articles in The Best American Science Writing 2012

Writing Due: A Transformative Explanation
Instructions: Drawing on Chapter 12 of Communicating Uncertainty and on material in class, prepare a transformative explanation. This explanation may be as brief as one double-spaced page, or it may be longer.

Guest Segment(s) by One or More Recent Interns
Discussion: Some International Perspectives on Science Journalism
Discussion: Some Aspects of Communication Theory
Workshop: Writing Assignment Due Today
Reading Due:
- selected articles on international aspects of science journalism

Writing Due: Interview Report
Instructions: Interview one or more science communicators doing types of work you might like to do. Then prepare a report describing the work and discussing issues faced. Please relate the issues to readings assigned for the course. This assignment should run about 1000 words.

Discussion: Some Journal Articles Reporting Research on Issues in Science and Technology Journalism
Progress Reports: Final Assignment
Workshop: Writing Assignment Due Today
Reading Due:
- some journal articles relating to issues in science and technology journalism
- more articles in The Best American Science Writing 2012

Writing Due: Discussion of Why the Assigned Articles Are Among the Best
Instructions: Read the assigned articles in The Best American Science Writing 2012 and discuss why they are among the best. This assignment should run about 1000 words.
Writing 2012. Then speculate on why they were considered among the best. If appropriate, relate some of your observations to points made in other readings thus far for the course. This assignment should run about 500 words.

11/12 Discussions with One of More Science Communicators about Issues Faced
(might be by distance media)
Progress Reports: Final Assignment
Workshop: Writing Assignment Due Today

Reading Due:
• some writing by science communicator(s) to be talked with
• rest of The Best American Science Writing 2012

Writing Due: Discussion of Favorite and Least Favorite Articles
Instructions: Read the assigned articles in The Best American Science Writing 2012. Decide which one you like the most and which one you like the least. Explain your choices. If appropriate, relate some of your judgments to points made in other readings for this course. This assignment should run about 500 words.

11/19 Presentations: Final Project
Discussion: Some Current Writings on Issues in Science Communication

Reading Due:
• some current writings on issues in science communication

Writing Due: Rewrite of Interview Report
Instructions: Using feedback from classmates and the instructor, prepare a rewrite of the interview report. Please take into account suggestions regarding both content and crafting. You are welcome to submit this assignment early.

11/26 Workshop: Final Project
Wrap-Up

Final Project:
Please do one of the following:
• Write a feature article of about 1000 words on an issue in science or technology. Accompany the article with a discussion, also running about 1000 words, of the issues you encountered in preparing it. The article should employ approaches used in feature articles read for the course, and the discussion should draw on class readings about issues in science and technology journalism.
• Write a report, of publishable quality, on an issue in science and technology journalism that was not discussed extensively in the course. To gather information for the report, you should both read relevant literature and do interviews. The report should run about 2000 words. If possible, you should specify a suitable site of publication.
• Read two or more books on an issue in science, technology, or science and technology journalism. Then write a well-integrated “essay review” describing, summarizing, and evaluating the books and presenting your own thoughts on the issue(s). The review should run about 2000 words.
• Write an article on science and technology journalism in a country other
than the United States. To do so, draw on written sources and interviews. Both provide an overview of science and technology journalism in the country chosen and discuss issues that exist; include ties to assigned readings. The article should run about 2000 words. Note: If you wish to revise your final project after the workshop, you have until **Monday, December 3**, to submit the final version.

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**Americans with Disabilities Act (ADA)**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu).

**Academic Integrity**

*“An Aggie does not lie, cheat, or steal, or tolerate those who do.”* For additional information please see: [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu).
This course is intended mainly to help acquaint you with research methods as they relate to science and technology journalism (STJR). More specifically, goals of the course include increasing your ability to

- understand communication research methods
- evaluate research on STJR
- do academic research on STJR
- do applied research in the STJR workplace
- understand and evaluate research on scientific and technical topics you cover

Like other courses in the STJR program, this course is intended also to help you keep refining your writing and editing skills. In addition, it can serve as a foundation for courses in study design and statistics. For non-STJR students, the course can serve more broadly as an introduction to social science research methods.

The goals of this course will be pursued largely through classroom activities, readings, and writing assignments. Classroom activities will include quizzes on and discussion of textbook chapters, other discussion of readings about communication research methods, discussion of journal articles on research using those methods, guest presentations (for example, by STJR graduates who have done theses or dissertations), and discussion of class members’ writing assignments for the course. Because much or your learning will depend on your participation, you will be expected to attend class regularly; only in exceptional circumstances should more than two sessions be missed.

The textbook for the course is *Mass Media Research: An Introduction*, 9th edition, by Roger D. Wimmer and Joseph R. Dominick (Boston: Wadsworth, 2009). Other readings will consist mainly of research articles on topics in science and technology journalism. Core reading assignments are noted on the schedule below, and additional readings will be announced in class.

The graded items, the dates they are due, and the percentages of your grade they will constitute are as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Date(s)</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>quizzes (on 16 chapters)</td>
<td></td>
<td>weekly 30%</td>
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<tr>
<td>(lowest 3 grades will be dropped)</td>
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<tr>
<td>library searching exercise</td>
<td>2/13</td>
<td>5%</td>
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<tr>
<td>overview of a researcher’s work</td>
<td>3/6</td>
<td>15%</td>
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<tr>
<td>review article</td>
<td>4/10</td>
<td>30%</td>
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<tr>
<td>writing assignment of your choice</td>
<td>4/24</td>
<td>10%</td>
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<tr>
<td>class participation</td>
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<td>10%</td>
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</table>

The writing assignments are described on the schedule below, and further guidance will be provided in class. All writing assignments should be word-processed and double-spaced; pages
should be numbered. Unless otherwise requested, please submit hard copies. Grading of assignments will be as follows: A+:98, A:95, A-:92, B+:88, B:85, B-:82, etc. To receive a grade in the A range, work must be of essentially professional quality.

The success of a course such as this one depends on contributions from the students as well as from the teacher. Suggestions for making the course more educational and more enjoyable are appreciated at any time.

**TENTATIVE SCHEDULE**

<table>
<thead>
<tr>
<th>Session/Date</th>
<th>Main Activities and Assignments</th>
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<tbody>
<tr>
<td>1 Jan 16</td>
<td>Introduction to the Course</td>
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<tr>
<td></td>
<td>Presentation/Discussion: Examples of STJR Research</td>
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<td>Brief Recap or Introduction: Communication Theory</td>
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<td>Brief Recap or Introduction: The 2013 American Association for the Advancement of Science (AAAS) Annual Meeting</td>
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<td></td>
<td>Introduction to Next Week’s Reading</td>
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<tr>
<td>2 Jan 23</td>
<td>Quiz and Discussion: Textbook Chapters Due Today</td>
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<td></td>
<td>Discussion: Application of Today’s Reading to STJR Research</td>
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<td>Presentation/Discussion: Publishing STJR and Other Research: Outlets, Formats, and Stylebooks</td>
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<td></td>
<td>Introduction to Next Week’s Reading</td>
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<td></td>
<td>Preparation for Library Visit</td>
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<td></td>
<td><strong>Core Reading Due:</strong></td>
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<td>• textbook chapter 1: “Science and Research”</td>
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<td>• textbook chapter 2: “Elements of Research”</td>
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<tr>
<td>3 Jan 30</td>
<td>Special Session: Searching the Journalism Research Literature</td>
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<td>Stephen Bales, PhD (<a href="https://library.tamu.edu/directory/sbales">https://library.tamu.edu/directory/sbales</a>) Assistant Professor and Humanities and Social Sciences Librarian</td>
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<tr>
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<td>Room 204B Evans Library</td>
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<td><strong>Note: Please go directly to Evans Library. We will meet in the lobby and then go to Room 204B.</strong></td>
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<tr>
<td></td>
<td>Quiz and Discussion: Textbook Chapters Due Today</td>
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<td>Introduction to Next Week’s Reading</td>
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<td><strong>Core Reading Due:</strong></td>
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<td>• textbook chapter 3: “Research Ethics”</td>
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<td>• textbook chapter 4: “Sampling”</td>
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<td></td>
<td>• examples of STJR research using sampling</td>
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</tbody>
</table>
4 Quiz: Textbook Chapter Due Today
Feb 6 Discussion: Reading Assigned for Today
Discussion: Examples of Qualitative STJR Research
Discussion: Reading from Last Week (continued)
Introductions:
   Library Searching Exercise
   Writing Assignment Due March 6
Core Reading Due:
   - textbook chapter 5: “Qualitative Research Methods”
   - examples of STJR research using qualitative methods

5 Quiz and Discussion: Textbook Chapter Due Today
Feb 13 Discussion: Examples of Content Analysis in STJR
Conversation with an STJR Graduate Who Has Done Qualitative Research (tentative)
Discussion: Library Searching Exercise
Introduction to Next Week’s Reading
Discussion: Plans for AAAS Annual Meeting
Core Reading Due:
   - textbook chapter 6: “Content Analysis”
   - examples of content analysis in STJR
Exercise Due: library searching exercise
Instructions for this exercise will be e-mailed.

6 Discussion: Relevant Highlights of the AAAS Annual Meeting
Feb 20 Quiz and Discussion: Textbook Chapter Due Today
Discussion: Other Reading Due Today
Introduction to Next Week’s Reading
Discussion: Doing a Thesis or Dissertation
Core Reading Due:
   - textbook chapter 7: “Survey Research”
   - examples of survey research in STJR

7 Quiz and Discussion: Textbook Chapters Due Today
Feb 27 Discussion: Examples of Longitudinal and Experimental Research in STJR
Progress Reports: Writing Assignment Due March 6
Introduction: Review Article Assignment

**Core Reading Due:**
- textbook chapter 8: “Longitudinal Research”
- textbook chapter 9: “Experimental Research”
- examples of longitudinal and experimental research in STJR

**Workshop:** Writing Assignment Due Today
**Mar 6**
Introduction to Reading for Next Class

**Writing Due: overview of a researcher’s work**

Instructions: Identify someone who has been an author of at least 3 journal articles that report research using methods discussed in this course. The person must be first author of at least 2 of the articles. (Normally the person should be an STJR researcher. However, for class members other than STJR students, the researcher may be in another field.) Read these articles (or at least 3 of these articles if the person has published more than 3). To supplement your reading, interview the person about his or her research. Then prepare a paper summarizing, evaluating, and integrating what you have found. In keeping with the focus of this course, please emphasize methods used in the reported research. Also include information about the researcher. This assignment should run about 1250 words (5 double-spaced pages). It should include a reference list and should be accompanied by the articles analyzed or by links to them. (For this assignment, 45% of your grade will be based on your analysis of the articles, 15% will be based on the interview material, and 40% will be based on the quality of the writing.)

Note: If you would like to rewrite your overview after the workshop, you may do so and submit the rewritten version on March 27. You will still need to submit the original version on March 6. However, if you submit a rewrite, your grade will be based on it, not the original version.

**Spring Break * Spring Break * Spring Break * Spring Break * Spring Break * Spring Break**

**Recap of the Course Thus Far**
**Mar 20**

**Quiz and Discussion: Textbook Chapter Due Today**
**Presentation/Discussion: Preparing a Review Article as Research**
**Introduction to Next Week’s Reading**

**Core Reading Due:**
- examples of systematic and other review articles
- selected readings on preparing review articles
- textbook chapter 10: “Introduction to Statistics”
10  Quiz and Discussion: Textbook Chapter Due Today
Mar 27  Discussion: Examples of STJR Research Testing Hypotheses
Progress Reports: Review Article Assignment
Introduction to Next Week’s Reading
**Core Reading Due:**
- textbook chapter 11: “Hypothesis Testing”
- examples of STJR research testing hypotheses
(Reminder: If you are rewriting the overview of a researcher’s work, it is due in class today.)

11  Quiz and Discussion: Textbook Chapter Due Today
Apr 3  Progress Reports: Review Article Assignment
Introduction: Final Assignment
Presentations by One or More STJR Graduates or Others Who Have Done or Are Doing Theses or Dissertations (tentative)
Introduction to Next Week’s Reading
**Core Reading Due:**
- textbook chapter 12: “Basic Statistical Procedures”
**Browsing Due: some STJR master’s theses**
(To find some STJR theses, search the Texas A&M University library website, using the designator “major science and technology journalism.”)

12  Quiz and Discussion: Textbook Chapter Due Today
Apr 10  Discussion: Plans for Final Assignment
Introduction to Next Week’s Reading
Workshop: Writing Assignment Submitted Today
**Core Reading Due:**
- textbook chapter 13: “Newspaper and Magazine Research”
**Writing Due: review article on an STJR topic**
Instructions: Identify a topic that interests you and about which a substantial amount of research using methods discussed in this course has been done. (For STJR students, this topic should be in STJR; for other students, it may be in STJR or another field.) Review the literature about this topic, and prepare a review article on it. (Note: In planning and doing your literature search, you are strongly encouraged to work with Dr. Bales from the library.) Your article should include an introduction; a methods section stating how you reviewed the literature; one or more sections summarizing, evaluating, and integrating the literature; and a reference list. In presenting and discussing the literature, particular attention should be paid to methods used in the research being cited. This assignment should run 2000 to 2500 words (about 8 to 10 double-spaced pages). It should be concisely written; length in itself will not be rewarded.

13  Quiz and Discussion: Textbook Chapter Due Today
April 17
Progress Reports: Final Assignment
Presentations by STJR Students Who Are Doing or Recently Did Internships
Introduction to Next Week’s Reading
Core Reading Due:
- textbook chapter 14: “Research in the Electronic Media”

April 18
Quiz and Discussion: Textbook Chapters Due Today

April 24
Presentation/Discussion: Writing Assignment for This Week
Wrap-Up
Core Reading Due:
- textbook chapter 15: “Research in Advertising”
- textbook chapter 16: “Research in Public Relations”

Writing Due: brief writing assignment of choice
Instructions: Prepare a final piece of writing relating to this course. Possibilities include
- a non-technical description and explanation of some major research methods used in a scientific field of your choice (for example, astronomy, chemistry, or microbiology)
- a proposal for a piece of research on a science communication topic
This assignment should total about 1000 words (4 double-spaced pages).

Optional Assignment: rewrite of review article
Instructions: Drawing on feedback from classmates and the instructor, prepare a revised version of your review article. If you choose to do this assignment, you have until May 1 to submit it. Satisfactory completion of this rewrite will add 2 points to the original grade for your review article.

The Americans with Disabilities Act (ADA) is a federal antidiscrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Office of Disability Services in Cain Hall, Rm. B118, or call 845-1637.

As the Aggie Honor Code states, “An Aggie does not lie, cheat, or steal or tolerate those who do.” It is expected that you will neither give nor receive unauthorized aid in this course. All writing for this course must be your original work. For Texas A&M Honor Council Rules and Procedures, please see www.tamu.edu/aggiehonor.
This course is designed mainly to help you become more adept at writing for the public about science and technology. Other goals include increasing your knowledge of the science journalism world, enhancing your skill in editing popular science stories, broadening your familiarity with science and technology, and helping you to write for scientific and technical readerships.

These goals will be pursued largely through classroom activities, readings, conferences with the instructor, and (of course) writing assignments. Classroom activities will include discussion of topics in science/technology reporting, analysis of science/technology stories from the popular media, and workshops on class members’ writing. Because much of your learning will depend on your participation in class, you will be expected to attend the course regularly; only in exceptional circumstances should more than two sessions be missed.

Readings for the course will include both writings on and examples of science/technology reporting. The required books are


An optional book that registrants may wish to use is


Core reading assignments are noted on the schedule below, and other readings may be announced in class. As well as completing the assigned readings, you should follow current coverage of science and technology.

During the course, you should meet with the instructor twice for conferences on your work. One conference should be before mid-semester and the other after. Opportunities for additional conferences are readily available.
The graded assignments, the dates they are due, and the percentages of your grade they will constitute are as follows:

- news story based on a journal article: 9/5, 5%
- points from *Field Guide*: 9/12, 5%
- choice of conference sessions to cover: 9/19, 5%
- points from reading: 9/26, 5%
- profile of a scientist: 10/10, 15%
- analysis of a science magazine: 10/17, 5%
- proposal for feature article: 10/24, 5%
- news story on journal article of choice: 10/31, 5%
- quiz on *News & Numbers*: 11/7, 5%
- feature article or alternative assignment: 11/14, 25%
- project of your choice: 11/28, 20%

A revised version of the last assignment listed above may be submitted as late as Tuesday, 12/4.

All writing assignments should be word-processed and double-spaced, with an unjustified right margin; pages should be numbered. Except when otherwise specified, please bring copies for the instructor, your classmates, and yourself.

The writing assignments are described on the schedule below, and further guidance will be provided in class. Normally, 10 points will be deducted for each day an assignment is late. However, one assignment may be submitted one week late without penalty. You are encouraged to publish writing you do for the course.

Grading of assignments will be as follows: A+: 98, A: 95, A−: 92, B+: 88, B: 85, B−: 82, etc. To receive a grade in the A range, work must be of essentially professional quality. *Rewrites will be permitted of the writing assignments due in September and October. If you submit an acceptable rewrite two weeks or less after the assignment is returned to the class, your grade for the assignment will be increased by two points. Please write REWRITE at the top and submit the graded original with it.*

The success of a course such as this one depends on contributions from the students as well as from the teacher. Suggestions for making the course more educational and more enjoyable are appreciated at any time.

**TENTATIVE SCHEDULE**

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<th>Date/Session</th>
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<td>Introduction to the Course</td>
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<tr>
<td>1</td>
<td>Discussion:</td>
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<td></td>
<td>- The Scope of Science and Technology Reporting</td>
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<td>- Historical Perspectives on Science Writing</td>
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<td>- Basics of the Science Writer’s Craft</td>
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<td>- Newsworthiness in Science</td>
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<td>Introduction: Sources of Story Ideas and Information</td>
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<tr>
<td></td>
<td>Workshop: Examples of News Stories Based on Journal Articles</td>
</tr>
</tbody>
</table>
Discussion: Reading Assignment Due Today

[Note: In this course, you should be actively engaged with the reading. As you read, please ask yourself questions such as the following:

- What material in this reading is especially useful, interesting, insightful, or otherwise worthwhile?
- What points in this reading seem debatable? What counter-arguments might be made?
- How well is the item written? If the item is clear and interesting, what aspects of the writing make it so? If the item is confusing or dull, how could it be made more clear or interesting?

To aid in classroom discussion, please keep notes about such items.]

Browsing: Some Magazines in the Sciences

Discussion: Sources of Story Ideas and Information:

- Periodicals and Books
- Government, Associations, and Other Institutions
- Online Resources

Workshop: Writing Assignment Due Today

Core Reading Due:

- New York Times Reader: Introduction and Chapter 1
- Field Guide: Chapters 1, 2, 7, 8, and 17
- Ideas Into Words: Foreword, Chapter 1, and Chapter 2
- “Late Night Thoughts about Science Writing” by Alton Blakeslee (Quill, November-December 1994, pp. 35-38)

Writing Due: a news story based on a journal article

Instructions: Write a newspaper story based on the journal article and news release specified in class. Your story should run 250 to 500 words. In preparing the story, you may consult background resources such as reference books, textbooks, and earlier journal articles. However, you should not look at popular stories based on this journal article, and you should not do interviews. Above your story, please indicate the newspaper or wire service for which it is intended. Below it, list two or more people (or types of people) to consider interviewing to develop the story more fully; say why you would interview each. Please bring copies of your article for yourself, the instructor, and your classmates.

Discussion: Covering Various Realms of Science

Discussion: Covering Conferences

Workshop: Some Stories from Conferences

Core Reading Due:

- New York Times Reader: Chapter 2
- Field Guide: Parts Four and Five
- ”Conferences” (pp. 44-46) in Health Writer’s Handbook by Barbara

- “Publishing Excellent Conference Reports: Editors and Reporters Share Advice” by Barbara Gastel (Science Editor, July-August 2002, pp. 118-121)

Writing Due: identification and discussion of 10 points you found especially helpful or interesting in this week’s reading in the Field Guide

Instructions: Please state, in your own words, 10 points in today’s reading in the Field Guide that you found especially helpful or interesting. If possible, briefly discuss how you could envision applying each point in your work. You may use any format you consider appropriate. The assignment should run about 500 words (2 double-spaced pages).

9/19 Discussion: Sources of Story Ideas and Information:
Scientists, Engineers, Physicians, and Other People
Workshop: Interviewing
Discussion: Some Profiles of Scientists; Profile Writing
Workshop: Writing Assignment Due Today

Core Reading Due:
- Ideas Into Words: Chapter 3
- Field Guide: Chapter 18
- New York Times Reader: Chapter 4
- some other profiles of scientists

Exercise Due: choice of conference sessions to cover

Instructions: Imagine that you are a science writer for a wire service such as the Associated Press and that you will cover the 2012 American Association for the Advancement of Science (AAAS) meeting. From this standpoint, review the meeting program, which is available at http://www.aaas.org/meetings/2012/. Identify three symposia on which you probably would like to write news stories; for each, say why you consider the topic newsworthy. Also identify three sessions from which you might like to gather material for possible future stories, and say how you envision using the material. This assignment should run about two double-spaced pages. It may be in any format that you consider effective. (Note: In preparing this assignment, please do not look at any coverage of this meeting.)

9/26 Discussion: Plans for Profiles
Discussion: Feature Writing in Science
Discussion: Crafting a Science Story, Part 1

Core Reading Due:
- New York Times Reader: rest of Part II
- Ideas Into Words: Chapters 4 and 5
- Field Guide: Chapters 4-6 and 19-21
“Narrative in Science Communication” by James Shanahan in *Encyclopedia of Science and Technology Communication*, edited by Susanna Hornig Priest

**Writing Due: identification and discussion of 10 points you found especially helpful or interesting in this week’s reading**

Instructions: Please state, in your own words, 10 points in today’s reading that you think will be especially helpful in your writing. If possible, briefly discuss how you could envision applying each point. You may use any format you consider appropriate. The assignment should run about 500 to 750 words (2 to 3 double-spaced pages).

10/3 Progress Reports on Profiles

6 Discussion: Crafting a Science Story, Part 2

Guest Segment by Science Writer Mike May, PhD (http://www.techtyper.com)

**Core Reading Due:**
- *Ideas Into Words*: Chapters 6 and 7
- *Field Guide*: Chapters 9, 10, and 12
- selected writing by Mike May

10/10 Discussion: Highlights of the American Medical Writers Association Annual Conference

7 Discussion: Writing About Science for Magazines

Workshop: Profiles by Class Members

**Core Reading Due:**
- “Science in Magazines” by Ellen J. Gerl and “Science Magazines” by Declan Fahy in *Encyclopedia of Science and Technology Journalism*, edited by Susanna Hornig Priest
- Excerpts from *You Can Write for Magazines* by Greg Daugherty (Cincinnati: Writer's Digest Books, 1999)
- “Visual Images in Science Communication” by Lawrence Mullen in *Encyclopedia of Science and Technology Communication*, edited by Susanna Hornig Priest
- some science feature stories from magazines

**Writing Due: profile of a scientist, engineer, or health professional**

Instructions: Prepare a profile of a scientist, engineer, or health professional. The profile should run 1000 to 1500 words. At the beginning, state the word count and the publication for which the profile is intended. At the end, list all sources used. Please bring the specified number of copies to class.

(Note: If you wish to revise your profile after the workshop, you may submit the final version at the next session.)

10/17 Workshop: Writing Assignment for Today

8 Discussion: Writing Analytically on Research, Part 1

**Core Reading Due:**
Writing Due: analysis of a science magazine
Instructions: Identify a science magazine that you might like to write for, and review at least one issue of the magazine from the standpoint of a potential author. Also come up with an idea for an article in the magazine. Hand in

- an issue of the magazine
- a description of the magazine, focusing on items an author should keep in mind (for example: subject matter, audience, slant, types of articles, style) (Note: Please support your conclusions with evidence.)
- a one-paragraph summary of your idea for a story in the magazine

A total of about 500 to 600 words should suffice.

10/24 Discussion: Reporting Analytically on Research, Part 2
9 Discussion: Science Reporting from Institutions
Workshop: Writing Assignment for Today

Core Reading Due:
- News and Numbers: “A Guide to Part II” and Chapters 6-8

Writing Due: proposal for feature article
Instructions: Prepare a proposal for your feature article. The proposal may take the form of a query letter (proposal to editor) or a memo to the course instructor. Content should include, but need not be limited to, your proposed topic, the intended publication, and your plans for information-gathering. The proposal need not exceed the equivalent of one to two double-spaced pages. It should make clear that the story idea is a good one and that you are well prepared to pursue it. (Note: If you are a graduate student in a field other than science and technology journalism, you can either write the feature article you propose or do the alternative assignment noted below.)

10/31 Discussion: Reporting Analytically on Research, Part 3
10 Discussion: Science Reporting from Institutions

Core Reading Due:
- News and Numbers: Chapters 9-12 and back matter
- Field Guide: Part Six
- “Government Public Information” by Gail Porter in Encyclopedia of Science and Technology Communication, edited by Susanna Hornig Priest

Writing Due: a news story based on a journal article of your choice
Instructions: Identify a newsworthy scientific paper in a journal, and write a newspaper story about the research reported. Your story should run about 500 words. In preparing the story, you should not look at popular stories based on the journal article. However, you may consult whatever other written resources you wish, and you may do interviews. Above your story, please indicate the newspaper or wire service for which it is
intended. Please bring copies of your article for yourself, the instructor, and your classmates. Also, please submit a copy of the scientific paper or an electronic link to it.

11/7

Quiz on *News and Numbers*  
Discussion: Science Reporting for the Broadcast Media  
Viewing: An Excerpt from an Award-Winning Science Documentary  

**Core Reading Due:**  
- *Field Guide*: Chapters 11, 14, and 15  
- selected other reading on science in the broadcast media  

**Core Listening Due:**  
- some radio science stories

11/14  

Discussion: Writing and Reviewing Books in the Sciences  
Workshop: Writing Assignment Due Today  

**Core Reading Due:**  
- *Field Guide*: Chapter 13  
- *New York Times Reader*: Chapter 8  

**Writing Due: feature article or alternative assignment**  
Instructions: Prepare a feature article on a topic in science or technology. The article should be for a specific publication and should run 2,000 to 3,000 words. At the beginning, please state the word count and the publication for which the article is intended. At the end, list all sources used. (Alternative assignment: If you are in a field other than science and technology journalism, you can do an alternative assignment that entails reading *How to Write and Publish a Scientific Paper* and writing about its applicability to your work. Instructions will be provided during the course.)  

(Note: If you wish to revise your writing assignment after the workshop, you may submit it as late as Wednesday, November 21.)

11/21  

Supper Seminar  
(to be rescheduled for a mutually convenient date)
Guest Segment by W. R. Klemm, DVM, PhD

Discussion: Writing Blog Posts, Columns, Editorials, and Essays
Workshop: Project Due Today
Wrap-Up

Core Reading Due:
- *Field Guide*: Chapter 22 and anything else not yet read
- *New York Times Reader*: Chapters 7, 9, and 10
- selected writings by W. R. Klemm

Writing Due: project of your choice
Instructions: Please prepare one of the following:
- another feature article (may be a profile)
- a portfolio of news stories on journal articles, scientific presentations, or both
- a review of one or more books about science or science journalism
- an article on some aspect of science reporting
- part or all of a scientific paper
- part or all of a proposal in the sciences
- part of a thesis or dissertation in the sciences
- other writing of a type discussed in this course (please see instructor for approval)

The assignment should total about 1000 words. As usual, the target publication should be specified, and all sources should be listed.

(Note: If you wish to revise your project after the workshop, you may submit the final version as late as Tuesday, December 4.)

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**Americans with Disabilities Act (ADA)**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu)

**Academic Integrity**
“An Aggie does not lie, cheat, or steal, or tolerate those who do.” For additional information, see [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu)
Appendix D:

Syllabi: Elective Courses in Science and Technology Journalism
VIBS 663.601
BIOMEDICAL REPORTING
Fall 2012
Fridays 9:00–11:45 a.m.
Room 12 VTH

This course is designed mainly to help you become more adept at writing for the public about biomedical topics. It also is intended to acquaint you further with biomedical writing for other audiences and to aid you in working with the media. Other goals include strengthening your information-gathering and general writing skills, promoting critical thinking, and increasing your knowledge of medicine, biomedical research, and biomedical institutions.

These goals will be pursued through classroom activities, readings, and (of course) writing assignments. Because much of your and others' learning will depend on your participation, you are expected to attend class regularly. Only in exceptional circumstances should anyone miss more than two sessions of the course.


Core readings are noted on the schedule below, and additional readings (for instance, examples of biomedical reporting) will be announced in class. You are also asked to follow current biomedical reporting in various media and share pertinent items with classmates.

Students are encouraged to meet with the instructor at least twice during the course for conferences on their writing. Typically, one conference should be before the middle of the course and the other after. Additional conferences are readily available on request.

The graded items for this course, the dates they are due, and the percentages of your basic grade that they will constitute, are the following:

- medical-terminology exercise 5%
- analysis of a medical news story 5%
- story based on journal article 10%
- story based on presentation 5%
- story based on interview 10%
- exercise on health-writing technique 5%
- analysis of a biomedical feature article 5%
- critique of classmate's draft of overview feature 5%
- overview feature 15%
- final project 25%
- class participation 10%

All writing assignments are to be word-processed and double-spaced, and pages should be numbered. For readability, please leave the right margin ragged; do not justify it. Normally,
assignments should be submitted on time. However, you may submit one assignment (other than
the final paper) one session late without penalty.

Grading will be as follows:

- **A** 90-100 (highly professional or otherwise outstanding)
- **B** 80-89 (very good; approaching professional quality)
- **C** 70-79 (adequate)
- **D** 60-69 (marginal)
- **F** <60 (unacceptable)

For all assignments, both content and style will be considered.

You are encouraged to target for publication your writing for this course. Five points will be
added to the grade of each assignment published, or accepted for publication, by November 30.

The success of a course such as this one depends on contributions from the students as well as
from the instructor. Suggestions for making the course more educational and enjoyable are
appreciated at any time.

*Note: This fall this course is being given, at student request, during a semester it normally would
not be available; two attendees are expected. Given the circumstances, some sessions will be
rescheduled (at mutually feasible times) to accommodate the instructor constraint’s.*

**TENTATIVE SCHEDULE**

<table>
<thead>
<tr>
<th>Session/Date</th>
<th>Main Activities and Assignments</th>
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<tbody>
<tr>
<td><strong>Unit I: Introduction to Biomedical Reporting</strong></td>
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<tr>
<td>1 Aug 31</td>
<td>Introduction: The Participants and the Course</td>
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<td></td>
<td>Discussion: The Scope of Biomedical Reporting</td>
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<td></td>
<td>Introduction: Health-Writing Technique</td>
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<tr>
<td>2 Sep 7*</td>
<td>Lecture: Finding Scientific Information (Suzanne Shurtz, Instructional Services Librarian, Medical Sciences Library)</td>
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<td></td>
<td>Lecture: Giving an Effective Scientific Presentation</td>
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<td>Informal Tour: Texas A&amp;M Health Science Center Bryan Campus</td>
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<td></td>
<td>Discussion: Some Elements of Medical Terminology</td>
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<td></td>
<td>Discussion: Some US Health Professionals and Their Education</td>
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<tr>
<td><strong>Core Reading Due:</strong></td>
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<tr>
<td>- “Basic Elements of Medical Terms” (handout)</td>
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<td><strong>Browsing Due:</strong></td>
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<td>- “Healthcare Occupations” <a href="http://wihealthcareers.org/Career_occ_toe2.cfm">link</a></td>
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<tr>
<td><strong>Written Exercise Due: medical-terminology exercise</strong></td>
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<td>This exercise will be distributed. Please follow the instructions on it.</td>
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*This session will be at 8 a.m. at the Texas A&M Health Science Center Bryan Campus. For the first part of the session, you will join the second-year medical students in attending a pair of lectures. If you would like a ride, please be at the main entrance of the CVM at 7:30 a.m.*
Unit II: Sources of Story Ideas and Information

Introduction: Sources of Story Ideas and Information

Sep 14*

Discussion: Exercises and Writing Assignment Due Today
Discussion: Books and Periodicals as Sources
Workshop: Some Major Medical Journals; News Sections of Journals

Core Reading Due:

Exercises Due:
Do the exercises on pages 7 and 8 of the textbook. You need not hand in your answers, but you should be ready to discuss them in class.

Writing Due: analysis of a medical news story
Read the medical news story distributed in class for this assignment, and consider it in the context of material presented in class last week and the reading for today. Using the examples on pages 127-135 of the textbook as models, write comments about the content and crafting of the story in the column provided for this purpose. On a separate page, supply a brief (approximately 100- to 200-word) evaluation of the story. Be ready to discuss the story in class.

*This session will be rescheduled for a mutually feasible time.

Sep 21

Discussion: Government, Associations, and Other Institutions as Sources
Discussion: Exercises and Writing Assignment Due Today
In Class-Exercise: Reviewing Some Programs of Conferences in Medicine and Medical Communication

Core Reading Due:
- text: Chapter 3 (“Government, Associations, and Other Institutions”)
- Woloshin, Steven, and Schwartz, Lisa M. Media reporting on research presented at scientific meetings: more caution needed. MJA 2006;184:576-580.

Exercises Due:
Do exercises 1 and 2 on pages 49 and 50. You need not hand in your answers, but you should be ready to discuss them in class.

Writing Due: news story based on a journal article
Find in a medical journal or basic medical science journal a newsworthy report of original research, and write a news story about it. The story should run about 500 words. At the beginning of the story, specify the newspaper or other site for which the story is intended. Attach a copy of the journal article.

Sep 28

Discussion: Researchers, Clinicians, Patients, and Other People as Sources—Advice on Interviewing and Being Interviewed
Introduction to Writing Assignment: Story Based on Interview
Discussion: Online Resources
Discussion: Exercises and Writing Assignment Due Today

Core Reading Due:
- text: Chapter 4 (“Researchers, Clinicians, Patients, and Others”) and Chapter 5 (“Online Resources”)

**Exercises Due:**
Do exercise 1a on page 63, exercise 3 on page 64, and exercises 1-3 on page 71. You need not hand in your answers, but you should be ready to discuss them in class.

**Writing Due: news story based on presentation**
Attend a presentation on a biomedical topic. Then write a news story about it. The story should run about 500 words. At the beginning of the story, specify the venue for which it is intended. If you draw on sources other than the presentation, please list them at the end of the story.

**Unit III: Evaluating Biomedical Information**

6
- **Discussion:** Evaluating Medical Information—Some Basics
- **Oct 5* Discussion:** Exercises Due Today
- **Introduction:** The Major Writing Assignments for the Course
- **Progress Reports:** Writing Assignment Due Next Week

**Core Reading Due:**
- text: Chapter 6 (“Evaluating Information”)

**Exercises Due:**
Do exercises 1 and 4 on pages 96-97. You need not hand in your answers, but you should be ready to discuss them in class.

*Because of the American Medical Writers Association annual conference, this session will be rescheduled.*

7
- **Discussion:** Reading for Today
- **Oct 12 Discussion:** Exercises Due Today
- **Workshop:** Writing Assignment for Today
- **Workshop:** Some Lighter Biomedical Reading

**Core Reading Due:**
- text: Chapter 14 (“Presenting Risk”)

**Exercises Due:**
Do the exercises on page 288. You need not hand in your answers, but you should be ready to discuss them in class.

**Writing Due: story based on interview**
Interview a biomedical scientist, health professional, biomedical reporter, or other person involved in medical research, medical care, medical education, medical communication, or another aspect of biomedicine. The interview may focus on the person’s work, a biomedical issue, or another topic of biomedical interest. Prepare an article presenting
highlights of the interview; the article should run about 500 to 1000 words. At the beginning of the story, indicate the site for which the story is intended. At the end, list all sources used.

8 Discussion: Reading Due Today
Oct 19 Introduction: Health-Writing Style and Genres
Discussion: Plans for Overview Feature
Core Reading Due:
- Fagerlin, Angela, Zikmund-Fisher, Brian J., and Ubel, Peter A. Helping patients decide: ten steps to better risk communication. JNCI: Journal of the National Cancer Institute 2011;103(19):1436-1443.
- One or more stories dealing with statistics and risk

Unit IV: Health-Writing Style and Genres

9 Discussion: Exercises Due Today
Oct 26 Discussion: Health-Writing Style
Discussion: Some Health-Related Feature Articles
Core Reading Due:
- text: Chapter 7 (review it), pp. 138-143 (“The Feature Article Family”), and Chapter 10 (“Sensitivity and Style”)
- some examples of feature articles
Exercises Due:
Do exercise 2 on page 145 for articles 8-1 and 8-2, and do exercises 1 and 2 on pages 200-201. You need not hand in your answers, but you should be ready to discuss them in class.

Writing Due: exercise on health-writing technique
Do either exercise 1 on page 115 or exercise 3 on page 116. This exercise will be graded.

10 Discussion: Investigative Reporting on Medicine and Health
Nov 2 Discussion: Biomedical Essays, Columns, and Book Reviews
Progress Reports: Overview Features
Discussion: Exercises and Writing Assignment Due Today
Core Reading Due:
- selected articles from the Summer 2003 and Spring 2009 issues of Nieman Reports
- some investigative stories on medical topics
- some biomedical essays, columns, and book reviews
Exercises Due:
Do exercise 2 on page 145 for articles 8-3 and 8-4.

Writing Due: analysis of a biomedical feature article
Identify a biomedical feature article that you consider of generally high
quality. The article may be in any medium. In up to 500 words, identify the main strengths of the story; include examples to illustrate your points. If appropriate, also identify limitations of the article. Accompany your analysis with a copy of the article.

In-Class Assignment: constructive critique of classmate’s draft
Prepare a constructive critique of the draft of a classmate’s feature article. The critique should both note strengths and suggest improvements. Please submit
- a copy of the draft with editing on it
- a memo presenting comments and suggestions to the author

Discussion: The Drafts and Critiques

Core Reading Due:
- text: Chapter 9 (“Medical Reporting for the Electronic Media” by Tom Linden)

Writing Due: draft of overview feature
Draft a feature article providing an overview of a biomedical topic. The article should run about 1000 to 1500 words (about four to six double-spaced pages). At the beginning, specify the site for which the feature is intended, and note the word count. At the end, list sources used. Please submit your draft in duplicate, so a classmate can prepare a constructive critique of it as the next assignment. (Note: This draft will not be graded, but it is required. Failure to submit it will result in subtraction of 10 points from the grade on the final version of the article.)

Unit V: Some Key Issues and Areas

Exercises Due:
Do the exercises on pages 219, 265-266, and 280. (For exercise 2 on page 219, you may substitute a more recent item analogous to those in the table.) You need not hand in your answers, but you should be ready to discuss them in class.

**Writing Due: overview feature**
(See instructions above.)

13 Nov 30

Viewing and Discussion: A Biomedical Documentary
Workshop: Draft of Final Project

**Writing Due: draft of final project**

**Unit VI: Concluding Items**

14 Dec 3*

Discussion: Careers, Professional Organizations, and Educational Opportunities
Workshop: Draft of Final Project

**Writing Due: overview feature**

13 Viewung and Discussion: A Biomedical Documentary

14 Discussion: Careers, Professional Organizations, and Educational Opportunities

Writing Due: overview feature

**Unit VI: Concluding Items**

14 Dec 3*

Discussion: Careers, Professional Organizations, and Educational Opportunities
Workshop: Draft of Final Project

**Writing Due: draft of final project**

**Core Reading Due:**
- text: Chapters 15 (“Career Options”), 16 (“Professional Organizations”), and 17 (“Educational Opportunities”)

**Exercises Due:**
Do exercise 1 on page 303, exercise 3 on page 304, exercises 1-3 on pages 311-312, and exercise 3 on page 324. You need not hand in your answers, but you should be ready to discuss them in class.

**Writing Due: final project**
Please do one of the following:
1. Write a feature story on a biomedical topic. The story may be for any medium; it should draw on a range of sources and run about 2000 words. At the beginning of the story, specify the site for which it is intended and the word count. At the end, list the sources used. If appropriate, provide illustrations or ideas for illustrations.
2. Write a paper on an aspect of biomedical reporting of professional interest to you. The paper should be intended for your classmates in this course and should run about 2000 words; it should be informative and readable. At the beginning of the paper, list the word count. At the end, list the sources used.

*This day is a “redefined day” in the university calendar. (Although it is a Monday, Friday classes meet.) If schedules permit, the session might be postponed to later in the week.*

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**Americans with Disabilities Act (ADA)**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for
reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu

Academic Integrity

“An Aggie does not lie, cheat, or steal, or tolerate those who do.” For additional information, see http://aggiehonor.tamu.edu.
This course is intended mainly to increase your knowledge and skill regarding the reporting of environmental, health, and other risks. More specifically, goals of the course include increasing

- your familiarity with concepts and issues related to risk and crisis reporting
- your skill at reporting on risks and at facilitating risk reporting by others
- your ability to manage crisis communication
- your knowledge of environmental, health, and other risks
- your motivation to keep learning about risk and crisis reporting and your ability to do so

Like other courses primarily for science and technology journalism master’s students, this course is also intended to help you keep refining your writing, editing, and speaking skills. Because it is a reporting course, it is relatively writing intensive.

The goals of the course will be pursued largely through classroom activities, readings, and writing assignments. The course will have a seminar format; classroom activities will include discussions of readings, presentations by class members, guest sessions, and workshops on class members’ writing. Because much or your learning will depend on your participation, you will be expected to attend class regularly; only in exceptional circumstances should more than two sessions be missed.

The main books for this course are


Some other readings also will be assigned. In addition, class members will present highlights of chapters in *The Handbook of Crisis Communication*, edited by W. Timothy Coombs and Sherry J. Holladay (Wiley-Blackwell, 2010); a copy of this book will be available to borrow. Core reading assignments are noted on the schedule below, and additional readings will be announced in class.

The graded items and the percentages of your grade that they will constitute are as follows:

- brief writing assignments (6 assignments, each counting 5% of grade) 30%
- examination questions and answer key 15%
- oral presentation on chapters in Coombs and Holladay 10%
- oral presentation based on final project 10%
- written version of final project 25%
- journal 10%
The writing assignments are noted on the schedule below, and further guidance will be provided in class. All writing assignments should be word-processed and double-spaced, with an unjustified right margin; pages should be numbered. Unless otherwise requested, please submit hard copies.

Grading of assignments will be as follows: A+: 98, A: 95, A-: 92, B+: 88, B: 85, B-: 82, etc. To receive a grade in the A range, work must be of professional quality.

The success of a course such as this one depends on contributions from the students as well as from the teacher. Suggestions for making the course more educational and more enjoyable are appreciated at any time.

**TENTATIVE SCHEDULE**

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<tr>
<th>Session/Date</th>
<th>Main Activities and Assignments</th>
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<tbody>
<tr>
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<td>Introduction to the Course</td>
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<td>Highlights of Some Chapters on Basics of Risk and Crisis Communication</td>
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<tr>
<td>2 Sep 9</td>
<td>Discussion: Reading for Today</td>
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<tr>
<td></td>
<td>Workshop: Writing for Today</td>
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<td></td>
<td>Introduction to Media Training Workshop to Be Held Monday</td>
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<td></td>
<td><strong>Core Reading Due:</strong> <em>Risk Communication</em> chapters 1-5</td>
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<td></td>
<td><strong>Writing Due: highlights of reading for this week</strong></td>
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<td>In the reading due today, identify five points that you think will aid you in your further studies or your work. Present each point in your own words, and say how you can envision applying it. If desired, also relate the point to other knowledge. This assignment should run about 500 words. It may be in any format. Please bring copies for everyone to class.</td>
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<tr>
<td></td>
<td><strong>Journal Entries (due each week):</strong></td>
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<td>Throughout the course, please keep a journal on instances you observe of risk or crisis communication in the popular media or elsewhere. The journal should include at least two entries, for a total of at least 100 words, per week. Each entry should clearly identify and describe the observed communication and should include your evaluation of it. Where feasible, relate observations to material in class. Please bring your journal to class each week, and be ready to present the main content from at least one entry from the week. Also, at least three times during the course, the journals will be collected and graded. The writing in the journal need not be polished. However, it should be observant, clear, and thoughtful.</td>
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<tr>
<td>3 Sep 12</td>
<td><strong>Special Session: Steps for Managing an Immediate Media Crisis</strong></td>
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<tr>
<td>(Monday) (8-noon)</td>
<td>Speaker: Jim Humphries, DVM, Veterinary News Network</td>
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<td>Note: This event is a media training workshop being held by the College of Veterinary Medicine and Biomedical Sciences. It will take the place of the class on October 21.</td>
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<td>4</td>
<td>Discussion: Workshop from Monday</td>
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Week 4

Sep 16
Workshop: Writing for Today
Discussion: Reading for Today

Core Reading Due: Risk Communication chapters 6-9

Writing Due: brief assignment related to Monday’s workshop
Please do one of the following: (1) Prepare an approximately 500-word news story about the workshop Monday by Dr. Humphries. The story may be targeted for The Battalion, CVM Today, or another venue of your choice. Please specify the venue. (2) Prepare an approximately 500-word memo about the workshop by Dr. Humphries. The intended audience should be people in your graduate program who did not attend. In your memo, present the points from the workshop that you think readers would find most helpful. If you disagreed with any major advice in the workshop, you may say so; if you do, say why you disagree.

Sep 23
Discussion/Workshop: Reading and Writing for Today
Viewing and Discussion: Interviews with Blake Morrison and Brad Heath, Winners of the 2009 Grantham Prize

Core Reading Due: Risk Communication chapters 10-13

Reading or Browsing Due: “The Smokestack Effect: Toxic Air and America’s Schools,” from USA Today (content.usatoday.com/news/nation/environment/smokestack/index)

Writing Due: brief assignment related to the reading
Please do one of the following. Whichever option you choose, the assignment should run about 500 words. (1) In chapters 6-13, identify five to ten points that you think will aid you in your further studies or your work. Present each point in your own words, and say how you can envision applying it. If desired, also relate the point to other knowledge. This assignment may be in any format. (2) Look carefully at “The Smokestack Effect.” Note major strengths of the reporting. If desired, also note limitations.

Sep 30
Student Presentation on Part I of Coombs and Holladay

Core Reading Due: Risk Communication chapters 14-16

Writing Due: none—it’s time for a break

Oct 7
Student Presentation on Another Part of Coombs and Holladay
Introduction: Writing Assignment Due October 28

Core Reading Due: Risk Communication chapters 17-18

Writing Due: brief assignment related to the reading
Please do one of the following. Whichever option you choose, the assignment should run about 500 words. (1) In chapters 14-18, identify five to ten points that you think will aid you in your further studies or your work. Present each point in your own words, and say how you can envision applying it. If desired, also relate the point to other knowledge. This assignment may be in any format. (2) Describe and evaluate some
online risk-related materials presented in one of the sources listed in Table 18-2.

**8 Oct 14**

Discussion/Workshop: Reading and Writing for Today  
Student Presentation on Another Part of Coombs and Holladay  
Introduction: Final Project  

**Core Reading Due:** *Risk Communication* chapters 19-21  
Browsing Due: Examples of Case Studies in Risk and Crisis Communication  

**Writing Due: brief assignment related to the reading**

Please do one of the following. Whichever option you choose, the assignment should run about 500 words. (1) In chapters 19-21, identify five to ten points that you think will aid you in your further studies or your work. Present each point in your own words, and say how you can envision applying it. If desired, also relate the point to other knowledge. This assignment may be in any format. (2) Using guidance provided in the book *Risk Communication*, prepare a brief piece presenting risk information to a general audience. The piece may be a newspaper or magazine story, a fact sheet, or another type of communication.

(As noted, class will not meet on October 21. The workshop on September 12 replaced the October 21 session.)

**9 Oct 28**

Workshop: Writing for Today  
Discussion: Reading for Today  
Student Presentation on Another Part of Coombs and Holladay  
Introduction: Final Project  

**Reading Due:**

- excerpts from *Covering the Environment: How Journalists Work the Green Beat*, by Bob Wyss (Routledge, 2008)

**Writing Due: questions and answer key for an examination based on Risk Communication**

Prepare five multiple-choice questions and two essay questions for an examination based on the book *Risk Communication*.

- In total, the multiple-choice questions should draw on material from at least five chapters. Each question should have four or five options. An answer key should be provided. For each question, the key should include a paragraph identifying the correct option (and saying why it is correct, if not obvious) and explaining why the other options are incorrect.  
- In total, the essay questions should draw on material from at least two chapters. Answering the questions should require use of higher mental skills; for example, they should require people to apply, analyze, synthesize, or evaluate (not, for example, just list or define). The questions can be open book; please say whether they should be so. Each question should be accompanied by one
to three paragraphs of commentary noting major points that a
good answer should include and, if desired, providing other
remarks (such as an explanation of why the question was chosen).

<table>
<thead>
<tr>
<th></th>
<th>Discussion: Reading for Today</th>
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</thead>
<tbody>
<tr>
<td>10</td>
<td>Nov 4 Progress Reports: Final Project</td>
</tr>
<tr>
<td></td>
<td>Discussion (in person or remotely) with a Journalist or Public Information Officer Experienced in Risk or Crisis Communication or an Academic Expert on the Topic</td>
</tr>
<tr>
<td></td>
<td><strong>Reading Due:</strong> <em>Communicating Risks and Benefits</em> chapters 1-13</td>
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<table>
<thead>
<tr>
<th></th>
<th>Discussion: Reading for Today</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>Nov 11 Progress Reports: Final Project</td>
</tr>
<tr>
<td></td>
<td>Discussion (in person or remotely) with a Journalist or Public Information Officer Experienced in Risk or Crisis Communication or an Academic Expert on the Topic</td>
</tr>
<tr>
<td></td>
<td><strong>Reading Due:</strong> <em>Communicating Risks and Benefits</em> chapter 14-22</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th></th>
<th>Workshop: Writing Due Today</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Nov 18 Discussion: Reading for Today</td>
</tr>
<tr>
<td></td>
<td>Progress Reports: Final Project</td>
</tr>
<tr>
<td></td>
<td>Discussion (in person or remotely) with a Journalist or Public Information Officer Experienced in Risk or Crisis Communication or an Academic Expert on the Topic</td>
</tr>
<tr>
<td></td>
<td><strong>Reading Due:</strong> some feature articles on risks or crises</td>
</tr>
<tr>
<td></td>
<td><strong>Writing Due:</strong> a book review of <em>Communicating Risks and Benefits</em> Please write a review, of publishable quality, of the book <em>Communicating Risks and Benefits</em>. The review, which should run about 500 words, should both describe and evaluate the book. The review may be for any newspaper, magazine, journal, or other venue that publishes book reviews. Please state the intended venue.</td>
</tr>
</tbody>
</table>

|    | Discussion (in person or remotely) with a Journalist or Public Information Officer Experienced in Risk and Crisis Communication or an Academic Expert on the Topic |
| 13 | Dec 2 Discussion: Reading for Today |
|    | Progress Reports: Final Project |
|    | **Reading Due:** some additional articles on risk or crisis communication |

|    | Student Presentations: Final Project |
| 14 | Dec 5 Wrap-Up |
|    | **Writing Due:** case study, feature article or alternative assignment Please do one of the following. Whichever option you choose, the written version of your project should run 2000 to 3000 words. Of course, in preparing the project you should draw on what you have learned in the course. |
|    | Prepare a case study describing, analyzing, and evaluating either (1) how a risk has been communicated or (2) how communication has been done in |
a crisis. In preparing the case study, draw on information sources of a variety of types. Among possibilities are stories in the popular media; materials from institutional sources; and interviews with journalists, public information officers, and others.

- Write a feature article about a risk or crisis. Be sure to specify the target publication. In preparing the feature article, draw on information sources of a variety of types. Among possibilities are journal articles; government documents; and interviews with researchers, policymakers, and others.

- Prepare a paper of another type on an aspect of risk communication or an aspect of crisis communication. If you wish to take this option, please discuss your plans with the instructor, to ensure that your paper will satisfactorily fulfill the assignment.

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**Americans with Disabilities Act (ADA)**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information, visit http://disability.tamu.edu.

**Academic Integrity**
“An Aggie does not lie, cheat, or steal, or tolerate those who do.” For more information, please see http://aggiehonor.tamu.edu.
VIBS 685.328
DIRECTED STUDIES: SCIENCE EDITING
Summer 2012
Meeting dates: See schedule below
2:00 to 4:45 p.m.
Room 12 VTH except when otherwise announced

This course is designed mainly to help you become more adept at editing written material on science. It also is intended to help you build a foundation for continuing to develop your editorial skills. An additional goal is to help you explore career opportunities in science editing, and you may find that the course improves your writing. In keeping with the course designation “directed studies,” you will have substantial responsibility for your own learning.

The course focuses largely on editing for segments of the public. However, it also addresses editing for readers in scientific and technical fields. Although the course provides guidance mainly on editing text, it deals briefly with illustrations and design as well. In addition, it touches on print production and business aspects of editing.

The course includes discussions, readings, editing exercises, and projects. It also might include at least one guest session (in person or via distance media), and it might include at least one field trip. The main books are


Other reading materials for the course include the *Science News Stylebook*. Core reading assignments are listed on the schedule below, and additional readings will be noted in class.

This course can be taken for one, two, or three credits. If you take the course for three credits, your final grade will be constituted as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercises</td>
<td>20%</td>
</tr>
<tr>
<td>Project #1: editing a piece for the public (due 7/3)</td>
<td>20%</td>
</tr>
<tr>
<td>Project #2: editing a scientific paper or such (due 7/12)</td>
<td>20%</td>
</tr>
<tr>
<td>Final project (presentation 7/27; written version due by 8/3)</td>
<td>30%</td>
</tr>
<tr>
<td>Class participation</td>
<td>10%</td>
</tr>
</tbody>
</table>

If you take the course for two credits, you may omit either the first two projects or the final project; 45% of your grade will be based on the exercises, 40% on the project(s) you submit, and 15% on class participation. If you are taking the course for one credit, you will not be required
to do the projects; 70% of your grade will be based on the exercises, and 30% will be based on class participation.

Most exercises and other written assignments are listed on the schedule that follows. Further information will be provided in class.

The success of a course such as this one depends on contributions from students as well as from the teacher. Suggestions for making the course more educational and more enjoyable are appreciated at any time.

**TENTATIVE SCHEDULE**

<table>
<thead>
<tr>
<th>Date/Session</th>
<th>Main Activities and Assignments</th>
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</thead>
<tbody>
<tr>
<td>6/8 (Fri)</td>
<td>Introduction to the Course</td>
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<tr>
<td></td>
<td>Discussion: Meanings of “Editor” and “Edit”</td>
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<tr>
<td>1</td>
<td>Discussion: Reasons to Edit Manuscripts</td>
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<tr>
<td></td>
<td>Presentation: Editing and Proofreading—Some Basics</td>
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<tr>
<td></td>
<td>Overview: Niches in Science Editing</td>
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<tr>
<td></td>
<td>Review of Exercises Due Today</td>
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<tr>
<td></td>
<td><strong>Main Reading Due:</strong></td>
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<tr>
<td></td>
<td>• Einsohn: Front matter, Chapter 1 (“What copyeditors do”), Chapter 2 (“Basic procedures”), Chapter 3 (“Reference books and resources”), “Glossary of copyediting terms,” and “Glossary of grammar terms”</td>
</tr>
<tr>
<td></td>
<td><strong>Main Exercises Due:</strong></td>
</tr>
<tr>
<td></td>
<td>• Worksheets: Chapters 1, 2, and 3 in Einsohn</td>
</tr>
<tr>
<td>6/12 (Tues)</td>
<td>Discussion: Editors and Editing—More Basics</td>
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<tr>
<td>2</td>
<td>Discussion: Common Editing Marks; Basics of Online Editing</td>
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<td></td>
<td>Discussion: Levels of Editing</td>
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<tr>
<td></td>
<td>In-Class Exercises: Levels of Editing; Light Editing</td>
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<tr>
<td></td>
<td>Discussion: Editing for the Nonspecialist</td>
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<tr>
<td></td>
<td>Introduction: Editing Project #1</td>
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<td></td>
<td>Review of Exercise Due Today</td>
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<tr>
<td></td>
<td><strong>Main Reading Due:</strong></td>
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<tr>
<td></td>
<td>• handouts on standard editing marks and levels of editing (courtesy of Elizabeth Whalen)</td>
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<tr>
<td></td>
<td>• Montagnes: Front matter, Chapter 1 (“Author, editor, reader”)</td>
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<tr>
<td></td>
<td>• Selected <em>Science Editor</em> articles on online editing</td>
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<tr>
<td></td>
<td>• Montagnes: Chapter 5 (“Reaching the nonspecialist”)</td>
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<tr>
<td></td>
<td><strong>Main Exercise Due:</strong></td>
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<td></td>
<td>• Light-to-medium editing of a trade-magazine article on copyediting</td>
</tr>
</tbody>
</table>
6/26  Discussion: Reading for Today
(Tues)  Walk-Through: *Science News Stylebook*
3  Presentation: Editing with the User in Mind
Progress Reports: Editing Project #1

**Main Reading Due:**
- Montagnes: Chapter 2 (“Getting the most out of words”) and Chapter 3 (“The editor's many tasks”)
- Einsohn: Chapter 4 (“Punctuation”) and Chapter 5 (“Spelling and hyphenation”)
- *Science News Stylebook*

**Main Exercises Due:**
- Exercises: light editing of paragraphs
- Worksheets: Chapters 4 and 5 in Einsohn

6/28  Discussion: Editing for the Specialist—An Introduction
(Thurs)  Discussion: How Journals Function/Editing Journal Articles
4  Progress Reports: Editing Project #1
Discussion: Editorial Style—Capitalization
Introduction: Editing Project #2

**Main Reading Due:**
- Montagnes: Chapter 4 (“Editing for the specialist”)
- Einsohn: Chapter 6 (“Capitalization”)

**Main Exercises Due:**
- Editing for conformity with *Science News* style
- Worksheet: Chapter 6 in Einsohn

7/3  Discussion: Editing Project Due Today
(Tues)  Discussion: The Author–Editor Relationship
5  Discussion: Editing Materials by and for Non-Native Speakers of English
Discussion: Scientific Paper Edited by an Author’s Editor

**In-Class Exercises:**
- organization of a journal article
- organization of an introduction

**Reading Due:**
- selected readings on the author–editor relationship
- example of scientific paper “educationally edited” by an author’s editor

**Project #1 Due: Editing Material for Nonspecialists**
(For instructions, please see end of syllabus.)

7/5  Discussion: Exercises Due Today
(Thurs)  Discussion: Editorial Style—Numbers and Numerals
6  Discussion: Editing References
Presentation/Discussion: Editing Grant Proposals
Progress Reports: Second Project

**Main Reading Due:**
- Einsohn: Chapter 7 (“Numbers and numerals”), Chapter 11 (“Editing references”), and “Checklist of editorial preferences”
Main Exercises Due:
- worksheets: Chapters 7 and 11 in Einsohn
- editing material by non-native speakers of English

7/10 Discussion: Exercises Due Today
(Tues)
Discussion: Editorial Style—Quotations; Abbreviations, Acronyms, and Symbols;
Tables, Graphs, and Art
Progress Reports: Second Project
In-Class Exercise: Editing References

Main Reading: Due:
- Einsohn: Chapter 8 (“Quotations”), Chapter 9 (“Abbreviations, acronyms, and symbols”), and Chapter 10 (“Tables, graphs, and art”)

Main Exercises Due:
- worksheets: Chapters 8, 9, and 10 in Einsohn
- exercise: numbers and numerals

7/12 Discussion: Project Due Today
(Thurs)
Discussion: Ethical and Other Issues in Science Editing
Discussion: Illustrations and Design
Introduction: Final Project

Main Reading Due:
- selected readings on editorial ethics
- Montagnes: Chapter 6 (“Illustrations”)

Project #2 Due: Editing a Scientific Paper, Technical Report, Grant Proposal, or Book Chapter
(For instructions, please see end of syllabus.)

7/16 Discussion: Front and Back Matter; Typecoding
(Mon)
Discussion: Aspects of Print Production; Basics of the Business Side
Discussion: Book Editing
Discussion: Editing Tests for Employment

Main Reading Due:
- draft of chapter on editing for books and journals (prepared by Mary Lenn Dixon and Barbara Gastel)
- Einsohn: Chapter 12 (“Front and back matter”) and Chapter 13 (“Typecoding”)
- “Keys to Success on Copyediting Tests” by Elizabeth Whalen (CBE Views 1992:15:51-5)

7/18 Discussion: Putting It All Together, Part 1: Review of Some Exercises from
(Wed)
Montagnes
10 Discussion: Putting It All Together, Part 2: Discussion of Parts of the AMA Manual of Style and Review of Some Quizzes on It
Progress Reports: Final Project
Presentation: Proofreading Tips and Techniques (courtesy of Susan Aiello,
Main Reading Due:
- Selected sections of the *AMA Manual of Style* (available online through the Texas A&M library)
- Selected quizzes on the *AMA Manual of Style* (available online along with the manual; please take the quizzes and then check your answers against those provided)

Main Exercises Due:
- selected exercises from Montagnes workbook (*Editing and Publication: A Handbook for Trainers*)

7/20 (Fri) To Be Announced—may include one or more of the following:
- a field trip, discussion (in person or remotely) with one or more editors, material on editorial topics not yet covered, other items of interest to those enrolled, or individual conferences with class members

7/23 (Mon) Discussion: Language Editing (Part 1)
- Discussion: Selected Other Topics in Science Editing
- Progress Reports: Final Project

Main Reading Due:
- Einsohn: Chapter 14 (“Grammar: principles and pitfalls”)
- selected articles from *Science Editor* magazine

7/25 (Wed) To Be Announced—may include one or more of the following:
- a field trip, discussion (in person or remotely) with one or more editors, material on editorial topics not yet covered, other items of interest to those enrolled, or individual conferences with class members

7/27 (Fri) Discussion: Language Editing (Part 2)
- Oral Reports: Highlights of Final Projects
- Wrap-Up Exercise(s)
- Presentation: Some Editorial Humor

Main Reading Due:
- Einsohn: Chapter 15 (“Beyond grammar”)

Final Project Due: either a substantial piece of science editing or a paper on a topic or issue in science editing
(For instructions, please see end of syllabus. Today you are to give a presentation based on your final project. If you wish, you may have until August 3 to submit the final written version of your project. The presentation will count for one third of your grade for the project.)

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you believe you have a disability requiring an accommodation, please contact the Office of Disability Services in Cain Hall, Rm. B118, or call 845-1637.

* * * * *

As the Aggie Honor Code states, “An Aggie does not lie, cheat, or steal or tolerate those who do.” It is expected that you will neither give nor receive unauthorized aid on work in this course. All writing for this course must be your original work. For Texas A&M Honor Council Rules and Procedures, please see www.tamu.edu/aggiehonor.

Projects: JOUR 685 (Science Editing)

Project #1:
Editing Material for the Nonspecialist

Drawing on material presented in this course, please do one of the following:

(A) Identify a manuscript or published or posted article that is intended for nonspecialists and would benefit from considerable editing. (The Web is a good place to find such items.) Then (1) list the main strengths of the piece, (2) list the main ways the piece could be improved, and (3) copyedit the piece either by hand or using Track Changes. Accompany the edited piece with the style sheet you used in editing it.  
(Note: The piece you choose should be about 1000 words long. Before proceeding, please show it to the instructor for approval.)

(B) Rewrite the patient handout “Sclerotherapy,” which is available from the instructor. In doing so, be sure to keep the reader in mind. Rewriting the handout may include reorganizing and reformatting the material as you see fit. However, you should not add content. Please submit a double-spaced manuscript of the rewrite. Accompany the rewrite with the style sheet you used in preparing it.  
(Note: Option B is adapted from homework for the American Medical Writers Association workshop “Improving Comprehension: Theories and Research Findings.” The instructor, Thomas A. Lang, has granted permission to use the material.)

Project #2:
Editing a Scientific Paper, Technical Report, Grant Proposal, or Book Chapter

Drawing on material presented in this course, please do one of the following:

(A) Find a scientific or technical piece that needs editing, and then edit it. The piece should be about 10 double-spaced pages long; please show it to the instructor to make sure it is suitable. You should both edit the piece and write a cover memo to the author. You also should provide the style sheet you used in editing the piece.

(B) Edit a scientific manuscript available from the instructor. (Note: A course in research writing will be given June 25 through July 13. This course could be a good source of material to edit.) Also provide the style sheet you used in editing the manuscript.
Final Project

Please do one of the following:

(A) Complete a substantial piece of science editing:
The material you edit can be for either nonspecialists or specialists. It should total about 15 double-spaced pages. If you wish, the instructor can work with you to find material to edit; in any case, the instructor should approve the material as suitable. You should both edit the piece and write a cover memo to the author. Also provide the style sheet you used.

(B) Write a paper on a topic or issue in science editing:
This paper should be substantive but concise; it should run about 2000 to 3000 words (about 8 to 12 double-spaced pages). The paper should do one of the following:
- look in more detail at an aspect of science editing considered in class
- discuss editing in a specific field of science or technology
- deal with an aspect of science-editing careers
- consider an ethical issue, or set of ethical issues, in science editing
- address another aspect of science editing that interests you
If you choose to write a paper, please have the instructor approve your topic in advance. If papers seem to be of publishable quality, students will be encouraged to submit them to *Science Editor* or elsewhere.

You are to present orally in class the highlights of your final project. The presentation will count for one third of your grade for the project.
Appendix E:

Internship Requirements
Requirements for Internship  
MS Program in Science and Technology Journalism  
Texas A&M University

Students choosing the non-thesis option in the MS program in science and technology journalism must complete a 3-credit-hour internship. (Students choosing the thesis option may do an internship if they wish.) Normally the internship is undertaken after at least two semesters of course work.

**Prior approval:** Before the internship begins, it must be approved by the coordinator of the MS program. To qualify for approval, an internship should include a substantial amount of science writing or science editing. The supervisor of the internship should be experienced and expert in the communication of science and should be ready to give the intern guidance and feedback.

**Internship agreement:** Before the internship, the accompanying internship registration form must be completed and signed.

**Registration:** Students seeking internship credit register for VIBS 684 (Professional Internship). To receive 3 hours of credit, a student must complete at least 300 hours of internship work. Registration normally is for the semester after the internship is completed, to help ensure that all requirements are met. Students wishing to enroll in VIBS 684 during the term the internship is taken must consult the program coordinator.

**Journal:** Each student must maintain a detailed daily journal of internship activities and work completed. This journal becomes part of the student’s portfolio. (See next item.) Typically, students e-mail the program coordinator their journal entries once a week.

**Portfolio:** To receive credit, the student must complete a portfolio. This portfolio should include the following:
- a paper, typically of at least 5 double-spaced pages, describing and evaluating the internship experience and relating it to the student’s courses
- the student’s journal entries
- examples of work done during the internship

The portfolio will remain in the program office. Examples of previous portfolios are available to consult as models.

**Oral presentation:** After the internship, the student will give a presentation about it. Commonly, this presentation is given in an introductory course in the master’s program.

**Evaluations by supervisor:** At least twice during the internship, the supervisor will be asked to submit a written evaluation of the student’s work to the program coordinator.

**Grading:** Grading will be S/U (satisfactory/unsatisfactory).
Appendix F:

Non-STJR Courses Taken by STJR Students, Fall 2006–Fall 2012
Non-STJR Courses Taken by STJR Students, Fall 2006–Fall 2012

Students in the Texas A&M University MS program in science and technology journalism (STJR) have taken or are taking the non-STJR courses listed below. The information is based on unofficial transcripts of the 28 students who enrolled in the program in Fall 2006 or later.

As described elsewhere in the report, each STJR student takes 3 required STJR courses and at least 3 other STJR-related courses (which may be either STJR courses per se or relevant courses in journalism or communication). Depending on the student’s interests and degree option, the student may also take additional STJR-related courses. Each student also takes 2 to 6 science courses, depending on his or her interests and degree plan. Students can take up to 3 courses at the upper undergraduate (300 or 400) level; the remainder must be at the graduate (600) level.

In the list below, the courses are divided by general subject area. The course titles are abbreviated as they were in the transcripts; SPTP stands for Special Topics. Courses taken by 5 or more STJR students are indicated in boldface.

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Number of STJR Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journalism/</td>
<td>JOUR 303</td>
<td>Media Writing II</td>
<td>9</td>
</tr>
<tr>
<td>Communication</td>
<td>COMM 663</td>
<td>Sem Telecom Media Stds</td>
<td>3</td>
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<tr>
<td></td>
<td>COMM 670</td>
<td>Health Communicatn Sem</td>
<td>3</td>
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<tr>
<td></td>
<td>COMM 669</td>
<td>Survey of Health Comm</td>
<td>2</td>
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<td></td>
<td>AGCJ 307</td>
<td>Elec Media Prod Ag Comm</td>
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<td></td>
<td>AGCJ 405</td>
<td>Agri Publication Prod</td>
<td>1</td>
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<tr>
<td></td>
<td>AGCJ 470</td>
<td>Web Authoring in Ag Comm</td>
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<td></td>
<td>AMST 489</td>
<td>SPTP: Museum Exhibitions</td>
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<td></td>
<td>ARTS 310</td>
<td>Digital Photography</td>
<td>1</td>
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<td>CEHD 603</td>
<td>Writing Pub Ed &amp; HD Res</td>
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<td>COMM 615</td>
<td>Interp Methods in Comm</td>
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<td></td>
<td>COMM 632</td>
<td>Comm &amp; Conflict</td>
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<td></td>
<td>COMM 665</td>
<td>Communication &amp; Tech</td>
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<td></td>
<td>EDCI 671</td>
<td>How People Learn Science</td>
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<td>ENDS 374</td>
<td>Multimedia Dsgn &amp; Develp</td>
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<td></td>
<td>EHRD 616</td>
<td>Mthds of Teaching Adults</td>
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<td></td>
<td>ENGL 489</td>
<td>SPTP: Write for Web</td>
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Appendix G:

Graduate Committees: STJR Students, 2006 and Later Entry
Graduate Committees: STJR Students, 2006 and Later Entry

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<th>Entry</th>
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<th>Chair</th>
<th>Other CVM Member</th>
<th>Outside Member</th>
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<td>Fall 2006</td>
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1 Each student’s committee is to consist of a chair, who is to be from the College of Veterinary Medicine & Biomedical Sciences (CVM); another member from the CVM; and a member from elsewhere at Texas A&M University. All must be members of the Texas A&M University graduate faculty.
2 If the surname has changed since program entry, the current surname is in parentheses.
3 The first time a given outside member is listed, his or her affiliation is indicated.
Appendix H:

Master’s and Certificate Programs in Science Communication (Selected)
Master’s and Certificate Programs in Science Communication (Selected)

California

- University of California, Santa Cruz Science Communication Program
  - [http://scicom.ucsc.edu/](http://scicom.ucsc.edu/)
  - Fall courses: Reporting and Editing News Writing and Editing Workshop
  - Winter courses: Science Feature Writing Essay and Profile Writing
  - Spring Courses: Multimedia Reporting and Storytelling Investigative and Policy Reporting
  - stand-alone, one-year certificate program; aimed at scientists wishing to begin focusing on science writing, not journalists looking to specialize
  - internships during school year and subsequent summer

Colorado

- Colorado State University M.S. in Public Communication & Technology (Health, Environmental, Science or Technical Communication track)
  - [http://journalism.colostate.edu/graduate/public-communication-ms](http://journalism.colostate.edu/graduate/public-communication-ms)
  - Required courses: Communications Research and Evaluation Methods (JTC 500) (4)
    Process and Effects of Communication (JTC 501) (4)
    Research (JTC 698) (3)
    Colloquium in Communication and Technology (JTC 701) (1)
    Thesis (Thesis option) (JTC 699) (0-3)
    Independent Study (Project option) (JTC 695) (0-3)
  - 30 hours of coursework, translating to approximately 4 semesters for full-time students; part-time students’ duration depends on work schedule
  - Research Thesis option: students conduct original research on a communications-related issue and defend their theses in front of their faculty committees
  - Research Project option: students work with an outside communication organization to solve a particular problem using communication theories and methods and defend a report in front of their faculty committees
University of Colorado at Boulder M.A. in Journalism with a Graduate Certificate in Environment, Policy, and Society
- http://www.colorado.edu/EnvironmentalPolicyCertificate/
- a minimum of 18 hours of coursework from 40+ courses in environmental policy and science, including 1 cornerstone course and 1 capstone course
- master’s typically takes 2 years for full-time students; courses taken for the certificate also count for the master’s curriculum

District of Columbia

- Johns Hopkins University Master of Arts in Writing Program, Science/Medical Writing
  - http://advanced.jhu.edu/academic/writing/index.html
  - recently shifted to online courses and brief residencies; other tracks have night and weekend classes
  - Required courses: Techniques of Science Writing
    Advanced Reporting and Writing
    Science Writing Workshop
    Reading course of choice
    Science Writing Thesis
  - part-time; students take one or two courses per term and have five years to complete the program

Florida

- University of Florida College of Journalism and Communications Master of Arts in Mass Communications (Science/Health Communication)
  - http://www.jou.ufl.edu/academics/masters/mamc-sciencehealth-communication/
  - Required courses: Mass Communication Theory (MMC 6400) (3)
    Research Methods in Mass Communication (MMC 6421) (3)
    Seminar in Science/Health Communication (MMC 6409) (3)
    Public Policy (in consultation with advisor) (TBA) (3)
  - option of a thesis, producing a series of articles, or a project
  - 34 hours total
Georgia

- Grady College of Journalism and Mass Communication, University of Georgia, MA in Journalism (concentration in health and medical journalism)
  - [http://www.grady.uga.edu/medicaljournalism/](http://www.grady.uga.edu/medicaljournalism/)
  - Required courses: Proseminar in Mass Communication (JRMC 8000) (3)
    Research Methodology in Mass Communication (JRMC 8010) (3)
    Health and Medical Journalism (JRMC 7355) (3)
    Advanced Health and Medical Journalism (JRMC 7356) (3)
  - typically takes 2 academic years to complete; part-time options

Indiana

- Indiana University School of Journalism MA in Journalism (emphasis on science writing)
  - [http://journalism.indiana.edu/graduate/ma-in-journalism/](http://journalism.indiana.edu/graduate/ma-in-journalism/)
  - Required courses: Quantitative Research Methods for Journalists (J502)
    Media and Society Seminar (J510)
    The Press and the Constitution (J572)
  - 30 hours total; seems to typically take ~2 years, but 1-year options are available

Iowa

- Iowa State University Greenlee School of Journalism and Communication MS in Journalism and Mass Communication (Communication Theory and Research track, science communication)
  - [http://www.jlmc.iastate.edu/graduate/about-our-program](http://www.jlmc.iastate.edu/graduate/about-our-program)
  - Required courses: Theories of Mass Communication (Jl MC 501)
    Communication Research Methods (Jl MC 502)
    Strategies of Communication (Jl MC 510)
    Introduction to Graduate Study in Journalism and Communication (Jl MC 592)
    Seminars in Mass Communication (Jl MC 598)
  - 32 hours total, ~2 years; failure to complete the degree within 5 years may result in retaking courses
  - 4 credits toward producing a thesis (Thesis Research [Jl MC 699])
University of Iowa College of Public Health, Department of Community and Behavioral Health MS in Health Communication
- [http://www.public-health.uiowa.edu/cbh/programs/ms-hc.html](http://www.public-health.uiowa.edu/cbh/programs/ms-hc.html)
- College of Public Health Core:
  - Introduction to Biostatistics (171:161) (3)
  - Introduction to Health Promotion and Disease Prevention (172:101) (3)
  - Epidemiology I: Principles (173:140) (3)
- Health Communication Core (12 hrs from following):
  - Health Communication (172:240/036:240) (3)
  - Persuasion and Health (172:242) (3)
  - Communication Theory (036:371) (3)
  - Health Communication Campaigns (172:246/036:379) (3)
  - Media and Health (019:160/172:140) (3)
- required thesis, 6 hrs of credit
- 39 credits total, ~2.5 years

Maryland

- Johns Hopkins Program in Writing about Science MA in Science Writing
  - [http://writingseminars.jhu.edu/graduate/ma-science-writing.html](http://writingseminars.jhu.edu/graduate/ma-science-writing.html)
  - Required courses: Graduate Workshop in Science Writing (Fall)
    - Science Stories
    - Graduate Workshop in Science Writing (Spring)
    - Science as Literature
  - 1-year, terminal master’s

Massachusetts

- Boston University College of Communication MS in Science Journalism
  - [http://www.bu.edu/com/academics/journalism/graduate/science-journalism/](http://www.bu.edu/com/academics/journalism/graduate/science-journalism/)
  - Required courses: Fall
    - Computer-Assisted Reporting Boot Camp (2)
    - Science News Writing (4)
    - Science Narrative I (4)
    - Science Unbound: Writing at the Edges of Science and Society (4)
    - Multimedia for Science Education (4)
- Required courses: Spring
  Science Narrative II (4)
  Conflict and Commentary in Science Reporting (4)
  Science Documentary Television Production (4)
  Web Magazine (2)

- recent move to a 40-hour curriculum that takes ~1 year to complete instead of ~2 years
- professional internship in summer for 4 credits/hours

- MIT MS in Science Writing
  - [http://sciwrite.mit.edu/](http://sciwrite.mit.edu/)
  - Required courses: Fall
    Advanced Science Writing Seminar I (21W.825) (24 units)
    Graduate Thesis (21W.THG) (12)
    Lab Experience for Science Writers (21W.823)
  - Required courses: Spring
    Advanced Science Writing Seminar II (21W.826) (12)
    Advanced Science Documentary (21W.824) (12)
    Graduate Thesis (21W.THG) (12)

- 1-year program
- professional internship in summer for 12 units

**Michigan**

- Michigan State University School of Journalism and Knight Center for Environmental Journalism MA in Journalism (non-thesis track or plan B)
  - [http://j-school.jrn.msu.edu/knightcenter/msu-students/graduate/](http://j-school.jrn.msu.edu/knightcenter/msu-students/graduate/)
  - [http://www.reg.msu.edu/AcademicPrograms/ProgramDetail.asp?Program=1404](http://www.reg.msu.edu/AcademicPrograms/ProgramDetail.asp?Program=1404)
  - Required courses: Multiple Media Reporting I (JRN 800) (3)
    Multiple Media Reporting II (JRN 801) (3)
    Media, Society and Theory (JRN 815) (3)
    Applied Research Methods in Journalism (816) (3)
    Media Markets and Managers: Innovative to Traditional Models (JRN 818) (3)
    Social Media News and Information (JRN 821) (3)
    Journalism Professional Project (JRN 896) (3)
    Environment, Science and Health Reporting Topics (JRN 872) (3)
Environment, Science and Health Journalism Seminars (JRN 873) (3)
- minimum of 30 credits; takes ~ 2 years

- Michigan State University College of Communication Arts and Sciences/College of Human Medicine MA in Health & Risk Communications
  - http://www.reg.msu.edu/AcademicPrograms/ProgramDetail.asp?Program=1473
  - Required courses: Mass Communication and Public Health (CAS 825) (3)
    Health Communication for Diverse Populations (CAS 826) (3)
    Introductory Epidemiology (EPI 810) (2)
    Introduction to Quantitative Research Methods (COM 803) (3)
    Media Relations (ADV 860) (3) or Health and Science Writing (JRN 824) (3)
    Internship (COM 893) (3)
  - 33 credits total; takes ~ 2 years
  - must pass a written comprehensive final exam during the last semester

**Minnesota**

- University of Minnesota School of Journalism and Mass Communication Professional MA in Health Journalism & Communication (Health Journalism and Health Communication tracks)
  - http://www.sjmc.umn.edu/grad/hjComm.html
  - Required courses: Mass Communication and Public Health (JOUR 5541) (3)
    Health Journalism: Introduction to Health and Medical Journalism (JOUR 8191) (3)
    Advanced Health Journalism: Computer-assisted Reporting on Health (JOUR 8192) (3)
    Health Journalism and Communication Capstone (JOUR 8193) (4)
    Online Media Creation and Design (JOUR 8195) (3)
  - Journalism required courses: Fundamentals of Epidemiology (PUBH 6320) (3)
    Biostatistical Methods I (PUBH 6414) (3)
    Health-specific video or magazine journalism (SPECIAL SECTION/DIRECTED STUDY) (3)
  - Communication required courses: Health Writing (JOUR 5101) (3)
    Theory-based Health Message Design (JOUR 5542) (3)
- 33 hours total; ~2 years duration and flexible for both full- and part-time students
- (Note: Program currently does not admit new students.)

Nevada

- University of Nevada at Reno Reynolds School of Journalism MA in Journalism (emphasis on interactive environmental journalism)
  -  [http://journalism.unr.edu/graduateprogram/](http://journalism.unr.edu/graduateprogram/)
  -  Required courses: Journalism and Democracy (Journalism 720)
  Journalistic Writing (Journalism 607)
  Interactive Narrative (Journalism 756)
  Participatory Journalism (Journalism 755)
  Innovative Journalism (Journalism 703)
  Interactive Publishing (Journalism 723)
  Entrepreneurial Journalism (Journalism 791)
  Professional Project (Journalism 796)
  -  18-month (3 semesters) intensive course; includes a summer internship of 150 hours
  -  Environmental component via electives

New York

- City University of New York Graduate School in Journalism MA in Journalism (Health & Science Reporting concentration)
  -  [http://www.journalism.cuny.edu/academics/sample-courses-of-study/](http://www.journalism.cuny.edu/academics/sample-courses-of-study/)
  -  Required courses: Craft of Journalism I (6)
    Legal and Ethical Issues
    Fundamentals of Multimedia Journalism (6)
    Craft of Journalism II (6) or Craft II – Broadcast (6)
  -  45 hours total over 3 semesters
  -  comprehensive summer internship and substantial final or capstone project
• Columbia University Columbia Graduate School of Journalism MA in Journalism (Health and Science Journalism concentration)
  - Required courses: Seminar in Health and Science Journalism (Fall and Spring)
    Evidence and Inference (Fall)
    History of Journalism (Fall)
    Master’s Thesis (Fall and Spring)
  - 1-year program
  - geared towards experienced journalists looking for subject-area expertise

• New York University Department of Journalism, Science, Health and Environmental Reporting Program MA in Journalism with an Advanced Certificate in Science, Health and Environmental Reporting
  - http://journalism.nyu.edu/graduate/courses-of-study/science-health-and-environmental-reporting
  - Required courses: Writing and Reporting Workshop I (4)
    Current Topics in Science, Health and Environmental Journalism (6)
    Investigative Science Journalism (4)
    Writing and Reporting Workshop II (4)
    Environmental Reporting (4)
    Journalistic Judgment (4)
    Data Journalism (4)
    Fieldwork in Journalism (1), taken twice (internships)
    Medical Reporting (4)
    Science Reporting (4)
  - 44 credits over 16 months
  - 2 required internships (Fieldwork in Journalism)

• Stony Brook University School of Journalism, Center for Communicating Science MS in Journalism
  - https://journalism.cc.stonybrook.edu/?page_id=619
  - Required courses: Introduction to News Media Concepts and Institutions (JRN 500)*
    Introduction to Science and Health Concepts and Institutions (JRN 507)*
Health, Environment, Science and Technology Reporting (JRN 525)
The Big Story: Science Issues Seminar (JRN 530)
Investigative Reporting Technique (JRN 550)
Seminar in Ethics and Law (JRN 555)
Internship (JRN 588)
Long-Form Reporting: Master’s Project (JRN 600)

*take 500 if background in science, 507 if background in journalism

- 40 credits, takes 3 semesters and 1 summer for full-time students

North Carolina

- University of North Carolina at Chapel Hill School of Journalism & Mass Communication Medical and Science Journalism Program MA
  - [http://www.jomc.unc.edu/medicaljournalism](http://www.jomc.unc.edu/medicaljournalism)
  - Required courses: Medical Journalism (JOMC 560)
    - Science Documentary Television (JOMC 562)
    - Medical Reporting for Electronic Media (JOMC 561) or Advanced Medical Reporting (JOMC 564)
    - Mass Communication Research Methods (JOMC 701)
    - Mass Communication Law and Ethics (JOMC 740)
    - Reporting and Writing News (JOMC 753)
    - Multimedia Storytelling (JOMC 782)
    - Principles of Epidemiology (EPID 600)
    - Health Care in the United States: Structure and Policy (HPM 754)

- minimum of 36 credit hours, ~2-2.5 years
- comprehensive exam
- thesis, project, or set of articles

Tennessee

- University of Tennessee School of Journalism and Electronic Media MS in Communication and Information with concentration in Journalism and Electronic Media and the Science Communication Program
  - [http://jem.cci.utk.edu/content/masters-programs](http://jem.cci.utk.edu/content/masters-programs)
  - [http://jem.cci.utk.edu/sciencecommunication](http://jem.cci.utk.edu/sciencecommunication)
  - Required courses: Orientation to Graduate Study (C&I 501) (1)
Communication Theory (C&I 540) (3)
Mass Media Research Methods (JEM 512) (3)
Advanced Reporting across the Media (JEM 515) (3)
Mass Communication Law in a Democratic Society (JEM 530) (3)

- ~1-year program
- Master’s project

Texas

- Texas A&M University College of Veterinary Medicine & Biomedical Sciences M.S. in Science and Technology Journalism
  - [http://vetmed.tamu.edu/vibs/stjr](http://vetmed.tamu.edu/vibs/stjr)
  - Required courses:
    - Issues in Science and Technology Journalism (VIBS 657) (3)
    - Research Methods in Science and Technology Journalism (VIBS 658) (3)
    - Reporting Science and Technology (VIBS 660) (3)

- must take at least 2 graduate science courses
- 36 hours for internship track, 32 hours for thesis track; ~2-2.5 years to complete full-time, options for part-time students available
- internship must be at least 300 hours; student gives an oral presentation on the internship and submits a portfolio of work done during internship after completion
- thesis research requires at least 8 hours (typically spread over 2 semesters)
- can informally specialize in a specific area of science writing using electives

Virginia

- George Mason University Department of Communication MA in Communication (specialization in Health Communication)
  - [http://communication.gmu.edu/programs/la-ma-com](http://communication.gmu.edu/programs/la-ma-com)
  - Required courses:
    - Introduction to Graduate Studies (COMM 600) (3)
    - Research Methodologies in Communication (COMM 650) (3)
    - Communication Studies Project (COMM 798) (3)
  - 33 hours, ~2-2.5 years
  - specialization from selecting 12-15 credits from list of health-communication-related electives: [http://chss.gmu.edu/programs/la-ma-com/requirements/](http://chss.gmu.edu/programs/la-ma-com/requirements/)
Wisconsin

- Marquette University Diederich College of Communication MA in Communication (specialization in Science, Health and Environmental Communication)
  - [http://diederich.marquette.edu/COC/MA-communication.aspx](http://diederich.marquette.edu/COC/MA-communication.aspx)
  - [http://diederich.marquette.edu/COC/specializations.aspx](http://diederich.marquette.edu/COC/specializations.aspx)
  - Required courses: Theories of Communication (COMM 6000) (3)
    - Research Methods in Communication (COMM 6050) (3)
    - Qualitative Research Methods (COMM 6100) (3) or Quantitative Research Methods (COMM 6150) (3)
    - Professional and Research Ethics in Communication (COMM 6250) (3)
    - Health, Science, and Environmental Journalism (JOUR 5330) (3)
  - 30-36 credits total depending on thesis or professional track, ~2-2.5 years
  - professional track can be all courses or include a professional project

- University of Wisconsin-Madison School of Journalism and Mass Communication MA (Professional track)
  - [http://journalism.wisc.edu/graduate/professional-m-a/](http://journalism.wisc.edu/graduate/professional-m-a/)
  - Required courses: Integrated Media Storytelling (J801)
  - ~1.5-2.5 years for full-time students
  - requires a multimedia portfolio that must be presented to faculty and peers
  - at least 6 credits must be taken outside of Journalism and Mass Communication to develop specialization in health, environmental, and science communication

- University of Wisconsin-Madison Department of Life Sciences Communication MPS
  - [http://lsc.wisc.edu/programs/graduate-studies/degree-details/](http://lsc.wisc.edu/programs/graduate-studies/degree-details/)
  - [http://www.grad.wisc.edu/catalog/degrees_lsc.htm](http://www.grad.wisc.edu/catalog/degrees_lsc.htm)
  - Required courses: none listed; plan created in consultation with advisor
  - 30 credits, ~2-2.5 years
Appendix I:

Master’s and Certificate Programs in Technical and Specialized Communication (Selected)
Master’s and Certificate Programs in Technical and Specialized Communication (Selected)

Alabama
- Auburn University College of Liberal Arts Master of Technical and Professional Communication (MTPC)
  - [http://www.cla.auburn.edu/mtpc/](http://www.cla.auburn.edu/mtpc/)
  - [http://www.cla.auburn.edu/mtpc/prospective-students/programs-of-study/mtpc/](http://www.cla.auburn.edu/mtpc/prospective-students/programs-of-study/mtpc/)
  - Required courses: Technical and Professional Editing (ENGL 6000) (3)
    Document Design in Technical and Professional Communication (ENGL 6010) (3)
    Technical and Professional Communication: Issues and Approaches (ENGL 7010) (3)
    Web Development (ENGL 7060) (3)
  - at least 30 hours of course work beyond bachelor’s degree; ~2 years duration
  - oral exam and portfolio presentation to committee; no thesis required

Illinois
- University of Chicago Graham School of Continuing Liberal and Professional Studies Certificate Program in Medical Writing and Editing
  - [https://grahamschool.uchicago.edu/content/medical-writing-and-editing](https://grahamschool.uchicago.edu/content/medical-writing-and-editing)
  - no required courses; for Basic Certificate choose 4 from:
    Introduction to Medical Editing
    Advanced Medical Editing
    Writing in the Medical Sciences
    MEDLINE and Beyond: Web-based Databases, Fact-Finding, and Research
    The Structure of Medical Articles
    Interpreting and Reporting Biostatistics
    Designing and Editing Tables and Graphs
    Preparing an Investigational New Drug Application
    Bioethics in Medical Publishing
    Understanding and Mastering the Clinical Study Report
Writing to Enhance Evidence-Based Medicine
- 2 additional courses (for a total of 6) can be taken to receive an Advanced Certificate
- most courses meet for 3 consecutive days; three 1-day courses recently made available

Iowa
- Iowa State University Department of English MA in Rhetoric, Composition, and Professional Communication
  - [http://engl.iastate.edu/programs/rhetoric/ma/](http://engl.iastate.edu/programs/rhetoric/ma/)
  - specific required courses not listed; “required specified coursework in theory and research in professional communication, in teaching composition or writing and analyzing professional documents, and in the history of rhetorical theory”
  - thesis and internship options

Massachusetts
- Northeastern University College of Professional Studies MS in Technical Communication
  - [http://www.cps.neu.edu/degree-programs/graduate/masters-degrees/masters-technical-communication.php](http://www.cps.neu.edu/degree-programs/graduate/masters-degrees/masters-technical-communication.php)
  - Required courses: Introduction to Technical and Professional Writing (TCC 6100) (4)
    Editing Technical Content (TCC 6102) (4)
    Information Architecture (TCC 6110) (4)
    Usability (TCC 6120) (4)
    Technical Communications Capstone Project (TCC 6850) (4)
  - concentrations biomedical writing and computer industry writing
  - 46 quarter hours total; online program

Minnesota
- University of Minnesota Department of Writing Studies MS in Scientific and Technical Communication
  - [http://writingstudies.umn.edu/grad/msstc.html](http://writingstudies.umn.edu/grad/msstc.html)
  - Required courses: Introduction to Graduate Studies in Scientific & Technical Communication (WRIT 5001) (3)
Usability and Human Factors in Technical Communication (WRIT 4501) (3)
Information Design (WRIT 5112) (3)
Research in Scientific and Technical Communication (WRIT 5511) (3)
Editing and Style for Technical Communicators (WRIT 5561) (3)
Visual Rhetoric (WRIT 5671) (3)
Design Project (WRIT 8505) (3)

- 33 credits total; ~2-2.5 years
- internships optional and can be done for 3 credits (WRIT 5196)

North Carolina

- North Carolina State University Department of English MS in Technical Communication
  - [http://english.chass.ncsu.edu/graduate/ms/msprogram.php](http://english.chass.ncsu.edu/graduate/ms/msprogram.php)
  - Required courses: Theory and Research in Professional Writing (ENG 512) (3)
    Rhetoric of Science and Technology (ENG 515) (3)
    Advanced Technical Writing and Editing (ENG 517)
    Publication Management for Technical Communicators (ENG 518) (3)
    Projects in Technical Communication (ENG 675) (3)
  - can specialize based on electives (web design and development, environmental communication, medical/health communication, industrial communication, agricultural communication, or information systems communication)
  - 33 hours total, ~2-2.5 years
  - required semester of “professional work experience” (internship)

Pennsylvania

- University of the Sciences in Philadelphia Mayes College MS in Biomedical Writing
  - [http://www.gradschool.usciences.edu/biomedical-writing/biomedical-writing-program-overview](http://www.gradschool.usciences.edu/biomedical-writing/biomedical-writing-program-overview)
  - Required courses: Professional Writing in Science (BW701) (3)
    Information Strategies for Biomedical Writers (BW703) (3)
    Regulatory Documentation Processes (BW704) (3)
    Biostatistics for Biomedical Writers (BW705) (3)
    Ethical and Legal Issues in Biomedical Communication (BW706) (3)
Research in Biomedical Communication (BW860) (3)
Graduate Research Project I (BW890) (3)
Graduate Research Project II (BW891) (3)

- 36 hours, ~2.5 years

Texas

- Texas Tech University Department of English MA in Technical Communication
  - [http://www.english.ttu.edu/tcr/MATC/default.asp](http://www.english.ttu.edu/tcr/MATC/default.asp)
  - Required courses: Foundations of Technical Communication (ENGL 5371) (3)
    - Writing for Publication (ENGL 5390) (3) (required only for online students)
  - 36 hours, ~2.5 years
  - submit portfolio of work to faculty in final semester
  - may use 2-3 electives to have a minor
  - internship possible for course credit

Washington

- University of Washington Department of Human Centered Design & Engineering Technical Writing and Editing Certificate
  - [http://www.hcde.washington.edu/twe](http://www.hcde.washington.edu/twe)
    - Style in Technical Communication (HCDE 422)
    - Technical Editing and Document Development (HCDE 423)
    - Authoring and Production Tools in Technical Communication (HCDE 424)
    - Software User Assistance (HCDE 426)
    - Visual Design in Technical Communication (HCDE 427)
  - 9-month program, no electives
Appendix J:

Curriculum Vitae of Barbara Gastel (Coordinator, STJR Program)
BARBARA GASTEL

Mailing Address:  
Department of Veterinary Integrative Biosciences  
107 Veterinary Medicine Administration Building  
4458 TAMU  
College Station, TX 77843-4458 USA

Telephone Numbers:  
(979) 845-6887 (office)  
(979) 731-8781 (home)  
Fax: (979) 847-8981  
E-Mail: b-gastel@tamu.edu

Degrees
MD, 1978, Johns Hopkins  
MPH, 1978, Johns Hopkins  
BA, 1974, Yale, summa cum laude (major: biology/history of medicine)

Honors
Texas A&M University Association of Former Students Distinguished Achievement Award in Extension, Outreach, Continuing Education, or Professional Development, 2012  
John P. McGovern Science and Society Award, Sigma Xi, The Scientific Research Society, 2010  
Council of Science Editors Award for Meritorious Achievement, 2010  
Honored Editor in the Life Sciences, Board of Editors in the Life Sciences, 2006  
John P. McGovern Award for Excellence in the Field of Medical Communications, American Medical Writers Association Southwest Chapter, 2006  
Outstanding Texas A&M Science Communicator, Texas A&M University Chapter of Sigma Xi, 2003  
Distinguished Service Award, Council of Science Editors, 2002  
Fellow, American Association for the Advancement of Science, elected 2001  
Harold Swanberg Distinguished Service Award, American Medical Writers Association, 1998  
Golden Apple Award, American Medical Writers Association, 1993  
Fellow, American Medical Writers Association, elected 1991  
Phi Beta Kappa, 1973

Academic and Related Employment
2008-  
Professor of Veterinary Integrative Biosciences and of Humanities in Medicine  
Texas A&M University
2004-2008  
Associate Professor of Veterinary Integrative Biosciences  
and of Humanities in Medicine  
Texas A&M University
1989-2004  
Associate Professor of Journalism and of Humanities in Medicine  
Texas A&M University
1985-1989  
Assistant Dean for Teaching and Teaching Evaluation  
and Assistant Adjunct Professor of Epidemiology and International Health  
University of California, San Francisco School of Medicine
1983-1985  
Visiting Professor of Technical Communication  
Beijing Medical University (now Peking University Health Science Center)  
Beijing, China
1981-1983  
Assistant Professor of Science Writing  
Massachusetts Institute of Technology
1980-1981  
Special Assistant to the Director  
National Center for Health Care Technology  
US Department of Health and Human Services
1978-1980  
Special Assistant, Office of the Director  
National Institute on Aging, National Institutes of Health
Editorial Posts

2007- Knowledge Community Editor, AuthorAID at INASP
(project to help researchers in developing countries to write about and publish their work)

2000-2010 Editor, Science Editor (periodical of the Council of Science Editors)

1998-1999 Editor, CBE Views (periodical of the Council of Biology Editors)

1988-1997 Consulting Editor in Medicine and Pathology,
McGraw-Hill Yearbook of Science and Technology

1987-1996 Consulting Editor in Medicine and Pathology,
McGraw-Hill Encyclopedia of Science and Technology

1993-1995 Associate Editor, Sciphers (newsletter, Science Communication Interest Group,
Association for Education in Journalism and Mass Communication)

1987-1994 Member, Editorial Board, CBE Views
(book review editor, 1992-94)

1987-1990 Book Review Editor, American Journal of Preventive Medicine


1976-1982 Assistant Editor, Johns Hopkins Medical Journal
(clinical conferences editor, 1977-78; book review editor, 1980-82)

Teaching

Summary of Courses Taught

Texas A&M University

Science Journalism Graduate Program

Biomedical Reporting
Issues in Science and Technology Journalism
Reporting Science and Technology
Research Methods in Science and Technology Journalism
Risk and Crisis Reporting
Science Editing

Biomedical Science Program

Biomedical Explorations Through Narrative
Biomedical Writing

Texas A&M Health Science Center College of Medicine Department of Humanities in Medicine

Cultural Diversity in Medicine
Medicine and Literature
Medicine and the Media
Introduction to Medical Ethics (discussion leader and occasional lecturer)
Introduction to Leadership in Medicine (discussion leader)

College of Liberal Arts Honors Program

Journal Editing and Publication: A Look Behind the Scenes
Medical Literacy Through Narrative
Physicians’ Recollections
Words and Health

Department of Journalism

Editing for the Mass Media
Magazine Editing and Production
Magazine Writing
Media Writing II/Reporting and Editing II
Methods of Specialized Journalism

University of California, San Francisco School of Medicine
Teaching Techniques
Scientific Writing
Journalism for Health Science Students
Fundamentals of Epidemiology (discussion leader)
Medical Problem Solving (discussion leader)
Introduction to Clinical Medicine (discussion leader)

Beijing Medical University (now Peking University Health Science Center)
Scientific Communication
American-Style Teaching Methods

Capital (Peking Union) Medical College
Scientific Communication

Chinese Medical Association
Scientific Communication for Editors

Massachusetts Institute of Technology
Science Writing for the Public
Scientific and Engineering Writing
The Scientific Essay

Recent Workshops for International Researchers

AuthorAID Workshops on Proposal Writing: Addis Ababa, Ethiopia, 14-17 May 2012; Butare, Rwanda, 7-10 June 2011

AuthorAID Train the Trainers Workshops on Teaching Research Writing: Addis Ababa, Ethiopia, 30 November 2012; Kathmandu, Nepal, 18 March 2011; Dar es Salaam, Tanzania, 25 June 2010

International Training Workshops: Revision of Research Proposals and Development of Scientific Manuscripts for Publication (led the portion on scientific manuscripts): Cali, Colombia, 9-14 November 2009; Nairobi, Kenya, 29 April-4 May 2008

Workshop on Medical Writing and Publication, Bangladesh Society of Medicine, Dhaka, Bangladesh, 10-14 December 2011

Lecture Series on Biomedical Writing and Scientific Publication, Sichuan University, Chengdu, China, 24-26 December 2007 (one of two main lecturers)

Workshop on Scientific Writing and Publishing, Makerere University, Kampala, Uganda, 13-17 August 2007

Workshops in Mexico on Scientific Writing: Mexico City, 25-27 November 2009; Monterrey, 10-12 September 2009; Torreón, 16-20 March 2009

Workshops at American Medical Writers Association Annual Conferences
Medical Essays: 1995
Teaching Medical Journalism: 1993, 1994
How to Teach Medical Writing for the Lay Readership: 1992

Selected Other Teaching-Related Activities
Master's Degree Program in Science and Technology Journalism, Texas A&M University:
   Coordinator, 1995-1999, 2004-
   Chair of Graduate Advisory Committees for nearly 50 Students, 1996-
China Medical Board Program in Biomedical Writing and Editing, 1996-2007
   Principal Consultant/US Coordinator
   Instructor: Intensive Course and Online Lessons
   Internship Placement Coordinator and Internship Host
Science Editor Magazine, 2000-2010
   Supervisor of Interns

Teaching Grants
University Scholars Mentorship Grants, Honors Program, Texas A&M University,
   Spring and Fall 2006 and Spring 2007 ($500 per semester)
College of Liberal Arts Honors Course Grant, Texas A&M University, 2005 ($1,000)
Honors Curriculum Development Grant, Texas A&M University, 1992 ($2,000)

Teaching Awards and Nominations
2002  Class Friend Award, Class of 2002, Texas A&M College of Medicine
1997  Graduate Student Council Faculty Excellence Award, Texas A&M University
1989  Nomination for teaching award, UCSF School of Medicine
1988  Nomination for teaching award, UCSF School of Medicine
1987  Award for Outstanding Dedication to Quality Teaching,
      presented by classes of 1989 and 1990, UCSF School of Medicine

Publications
Books


Self-Study Workshop (Workbook and CD)


Monographs


Volumes Edited


Gary NE, Boelen C, Gastel B, Ayers WR, eds. *Improving the Social Responsiveness of Medical Schools.* Academic Medicine 74 (Supplement to Number 8), 1999.


**Articles**

**Selected Articles in Peer-Reviewed Publications**


Gastel B, Cornoni-Huntley J, Brody JA. Estrogen use and postmenopausal women: a basis for informed


Selected Other Pieces for Professional Readershps


Gastel B. Writing and publishing journal articles: from typewriters and postal deliveries to electronic everything. *Johns Hopkins Public Health* (online extra), Special Issue 2012. Available at: http://magazine.jhsph.edu/2012/technology/online_extras/alumni_dispatches/barbara_gastel/.


(also many reports in *Science Editor* on sessions at Council of Science Editors annual meetings)

**Selected Articles for the Public**

Gastel B. Farewell Concert to Mark 25 Years with Chorale: A Conversation with Director Jess Wade. *Insite* 2013 April (in press).


**Notes, Comments, etc.**

Gastel B. (Blog on scientific communication for the AuthorAID project.) More than 300 postings, 2007-. Available at: http://www.authoraid.info/news.

Gastel B. (Columns from the editor.) Various issues of *CBE Views* and *Science Editor*: 1998-2010 .

Gastel B. Snowstorm triggers flurry of great Buffalo memories. (Column.) *The Buffalo News* 2002 January 31.


Gastel B. Teacher definition. (Reply to letter regarding "An award program for teaching excellence.")


**Chapters**


Gastel B.  Appendices C (Suggested curriculum vitae format), D (Writing letters), E (Common medical terms to practice pronouncing), G (Making an oral presentation), and H (Attending scientific conferences in


Encyclopedia Entries


Book and Other Reviews (Selected)


Becoming a Doctor: From Student to Specialist, Doctor-Writers Share Their Experiences. Annals of Behavioral Science and Medical Education 17(2): 50, 2011.


The Great Stink of Paris and the Nineteenth-Century Struggle against Filth and Germs. New England


(Also multiple reviews in *Appraisal: Science Books for Young People*)

**Professional and Service Activity (Selected)**

**Intramural**

**Texas A&M University and Texas A&M Health Science Center**

**College of Veterinary Medicine and Biomedical Sciences**

2007- Member, Communications Advisory Team
2005-2009 Admissions Interviewer
2005-2006 Member, Editorial Advisory Board, *CVM Today*

**Department of Journalism**

2001-2004 Associate Head
1999-2001 Interim Head
1991-1999 Assistant Head

**Other**

2010- Advisor, Multicultural Awareness Program (Student Activity), College of Medicine
2006- Member, W and C (Writing and Communication) Course Advisory Committee
1992- Admissions Interviewer, College of Medicine
1990-98, 1999-2002, 2006- Member, Texas A&M University Press Faculty Advisory Committee
2005-2010 Advisor, Aggie Book Club
2008-2009 Faculty Advisory Board Member, *Explorations: The Texas A&M Undergraduate*
Journal
2001-2009 Member, Executive Committee, Faculty for the Professional Program in Biotechnology
1996-2005 Advisor, Texas A&M University Undergraduate Journal of Science
1991-2005 Member, Student Publications Board/Student Media Board

University of California, San Francisco School of Medicine
1985-1989 Member, Editorial Board, UCSF Magazine
1985-1989 Advisor to various student committees providing feedback on teaching and presenting teaching awards

Massachusetts Institute of Technology
1982-1983 Advisor to all writing concentrators (minors)
1982-1983 Premedical advisor
1982-1983 Freshman advisor

Extramural

Service on Advisory Boards
2001-2003 Member, National Research Council Board on Life Sciences

Summer Fellowships
1986 Association of Teachers of Preventive Medicine fellowship to evaluate Epidemic Intelligence Service Course in Basic Epidemiology and Statistics, Centers for Disease Control
1978 American Association for the Advancement of Science mass media fellowship, Newsweek magazine

Review of Manuscripts and Related Items
conferences: American Medical Writers Association annual conference, Association for Education in Journalism and Mass Communication annual convention
granting agencies: International Network for the Availability of Scientific Publications, Smithsonian Institution, University of Alaska Coastal Marine Institute, Washington Sea Grant Program, The Wellcome Trust

Contest Judging
2012- Association of Health Care Journalists Awards for Excellence in Health Care Journalism
2008-  Arnold P. Gold Foundation Humanism in Medicine Essay Contest

Consulting
Editorial consultant, Cactus Communications, Mumbai, India, 2011
Editorial consultant, American Psychological Association Clinician's Research Digest, 1993-2000
Education consultant, National Taiwan University College of Medicine, Taiwan, 1991-92
Consultant on science communication, International Crops Research Institute for the Semi-Arid Tropics, India, 1986

Delegations Led
Medical writers delegation to Russia and Estonia (under auspices of People to People Citizen Ambassador Program), 1997
Medical writers delegation to China and Mongolia (under auspices of People to People Citizen Ambassador Program), 1995

Memberships in Scholarly and Professional Societies
American Association for the Advancement of Science
   (Chair, Section on General Interest in Science and Engineering, 2008-2009)
American Medical Writers Association
   (Member, Executive Committee, 1992-1994 and 2003-2004)
Association of Health Care Journalists
   (Chair, Conference Program Planning Committee, 2000-2001)
   (Member, Board of Directors, 1999-2001)
Council of Science Editors (formerly Council of Biology Editors)
   (Member, Board of Directors, 1994-1997)
National Association of Science Writers
World Association of Medical Editors (WAME)
Appendix K:

Texas A&M University Faculty and Communication Professionals with Substantial Involvement in the STJR Program (Table and Brief CVs)
Some Texas A&M Faculty and Communication Professionals Involved with the STJR Program

Note: Many others also have taught, served on committees of, supervised assistantships of, or otherwise helped STJR students. Listed below are some people whose participation has been especially extensive.

### Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Main Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balester, Valerie</td>
<td>Executive Director, University Writing Center; Professor of English</td>
<td>has employed STJR students at TAMU Writing Center; also has facilitated hiring STJR students to help with writing-intensive courses elsewhere at university</td>
</tr>
<tr>
<td>Chenault, Edith</td>
<td>Lecturer in Veterinary Integrative Biosciences</td>
<td>as instructor of writing-intensive courses for undergraduate biomedical sciences (BIMS) majors, supervises an STJR student as a graduate assistant</td>
</tr>
<tr>
<td>Curley, Kevin</td>
<td>Lecturer in Veterinary Integrative Biosciences</td>
<td>as instructor of writing-intensive courses for undergraduate BIMS majors, supervises STJR students as graduate assistants</td>
</tr>
<tr>
<td>Johnson, Larry</td>
<td>Professor of Veterinary Integrative Biosciences and of Toxicology</td>
<td>has served on STJR students’ committees; some STJR students have assisted with his federally funded science education projects</td>
</tr>
<tr>
<td>North, Gerald</td>
<td>Distinguished Professor of Atmospheric Sciences and of Oceanography</td>
<td>teaches the climate change course that many STJR students take; has served on STJR students’ committees</td>
</tr>
<tr>
<td>Russell, Leon</td>
<td>Professor of Veterinary Integrative Biosciences, of Food Science and Technology, of Medical Microbiology and Immunology and of Toxicology</td>
<td>teaches an epidemiology course that many STJR students take; has served on many STJR students’ committees</td>
</tr>
<tr>
<td>Stranges, Anthony</td>
<td>Associate Professor of History</td>
<td>teaches history of science courses that STJR students commonly take; has served on many STJR students’ committees</td>
</tr>
<tr>
<td>Walraven, Edward</td>
<td>Senior Lecturer in Journalism Studies</td>
<td>teaches journalism courses that STJR students commonly take; has served on many STJR students’ committees</td>
</tr>
<tr>
<td>Welsh, C. Jane</td>
<td>Professor of Veterinary Integrative Biosciences, of Veterinary Pathobiology, of Neuroscience, of Genetics and of Biotechnology, Assistant Dean for Graduate Studies, College of Veterinary Medicine &amp; Biomedical Sciences</td>
<td>has served on STJR students’ committees; also has provided other guidance to STJR students and to the STJR program</td>
</tr>
</tbody>
</table>

### Communication Professionals

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Main Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clendenin, Angela</td>
<td>Director, Public Relations &amp; Communications, College of Veterinary Medicine and Biomedical Sciences</td>
<td>has supervised STJR students in various roles (graduate assistant, intern, etc.); frequent guest speaker in STJR courses</td>
</tr>
<tr>
<td>Randall, Keith</td>
<td>Associate Director, News &amp; Information Services, Texas A&amp;M University</td>
<td>has supervised many STJR students as interns; also has been a guest speaker</td>
</tr>
<tr>
<td>Wythe, Kathy</td>
<td>Communications Manager, Texas Water Resources Institute/Texas A&amp;M Institute of Renewable Natural Resources</td>
<td>has supervised STJR students as interns; also has been a guest speaker</td>
</tr>
</tbody>
</table>
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Valerie Balester

POSITION TITLE
Professor of English and Executive Director, University Writing Center

eRA COMMONS USER NAME (credential, e.g., agency login)

EDUCATION/TRAINING
(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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</thead>
<tbody>
<tr>
<td>University of Texas at Austin</td>
<td>PhD</td>
<td>08/1988</td>
<td>English (rhetoric and writing)</td>
</tr>
</tbody>
</table>

A. Personal Statement

Although I have been an administrator of writing programs for the last 16 years and thus have not been a prolific scholar, I have remained active, publishing, teaching, directing dissertations, and applying theory to practice through writing program administration. My background includes an understanding of the rhetoric of technical and scientific communication, and at Texas A&M I administer and lead the writing-in-the-disciplines program as well as a writing center that works across disciplines.

B. Positions and Honors

1988-1995 Assistant Professor of English, Texas A&M University
1992 Montague Teaching Scholar, center for Teaching Excellence, Texas A&M University
1995-2011 Associate Professor of English, Texas A&M University
1995-2001 Director of Writing Programs, Department of English, Texas A&M University
2001-2002 Interim Director of University Writing Center, Texas A&M (writing center and writing-in-the-disciplines program for entire university)
2002 Winner, with James McDonald, of the Best Article of the Year for 2002-03, International Writing Centers Association
2003-present Director of University Writing Center, Texas A&M (writing center and writing-in-the-disciplines program for entire university)
2007 Association of Former Students Teaching Award for Liberal Arts
2011 Professor of English
Fall 2012 Provost’s Core Curriculum Technology Enhancement Grant, in collaboration with the department of English

C. Selected Peer-reviewed Publications

I have one monograph and two edited collections in addition to these articles. Since I am in the humanities, I am working under a different model. Some of the articles listed were invited contributions to edited books, but they were peer reviewed.

Co-edited volumes


Articles:


D. Research Support

Writing Assessment Project, in conjunction with the Office of Institutional Assessment. My primary role is to serve as a consultant in the design and to direct the norming of papers.

"Assessing Services for International Graduate Students at the Texas A&M University Writing Center” Consists of interviewing tutors and international students and reviewing records of the consultation, including students’ exit survey assessments of their tutoring sessions and tutor comments on those sessions.

Currently working on a paper about international students and cultural differences in their understanding about critical thinking and how they can be supported in critical thinking in a writing center.
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Edith A. Chenault

POSITION TITLE
Lecturer

eRA COMMONS USER NAME (credential, e.g., agency login)

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
<thead>
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<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Texas A&amp;M University</td>
<td>B.S.</td>
<td>05/78</td>
<td>Agricultural Journalism</td>
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<tr>
<td>Sul Ross State University</td>
<td>M.Ed.</td>
<td>05/89</td>
<td>Education</td>
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<tr>
<td>Texas A&amp;M University</td>
<td>Ph. D.</td>
<td>08/08</td>
<td>Agricultural journalism</td>
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</table>

A. Personal Statement

My qualifications come from a 30-plus-year career in communication and writing. I was trained in writing concisely and clearly—a must for science communicators. My degrees—although in agricultural journalism fields—stressed how to communicate well in writing. Even before pursuing my doctorate, I was familiar with the science and technology journalism program, having an office in the same building as the director of the program and supervised a student writer from the program.

Additionally, my experience as a supervisor of student writers in a state agency fueled my passion to teach young people. I began my position as a lecturer in the writing program before I finished my doctorate.

I have taught for more than 4 years now and have learned even more as a lecturer and as writer. I have attended programs and lectures on student learning and how to best use new technology. Since medical writing was not in my educational background, I joined the American Medical Writers Association, attended appropriate workshops, and am about to complete an Essential Skills certificate from the American Medical Writers Association, which certifies that I have the essential skills of a medical writer.

I have begun writing articles for journal publication from my dissertation, “The Factors Affecting Agricultural Journalists and Communicators.” I hope to move from there into classroom research of factors affecting learning by students.

Until January, 2013, I was the caretaker for my elderly father, which limited my time to devote to scholarly writing and research.

B. Positions and Honors

1978: News Editor, The Llano News
1981: Communications Director, American-International Charolais Association
1982: Agriculture Writer, San Angelo Standard Times
1984: Communications Director, Texas Agricultural Extension Service (later Cooperative Extension Service)
2008: Lecturer, Department of Veterinary Integrative Biosciences, Texas A&M University

2002: Gold Award, Magazine (Lifescapes). Agricultural Communicators in Education (team award)
2002: Superior Service Team Award. Texas Cooperative Extension. Foreign Animal Disease educational
programs
2002: Outstanding News Reporting Award for Print Media. Texas Sheep and Goat Raisers Association
2002: Gold Award. Integrated Communications Program (Responding to a Global Menace: Foreign Animal Disease). Agricultural Communicators in Education (team award)
2008: Best Dissertation, Association for Communication Excellence in Agriculture, Natural Resources, and Life Sciences research special interest group

2008-Present: Membership, American Medical Writers Association

C. Selected Peer-reviewed Publications

None

D. Research Support

None
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Kevin O. Curley, Jr.

POSITION TITLE
Lecturer, Veterinary Integrative Biosciences

eRA COMMONS USER NAME (credential, e.g., agency login)

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
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<th>FIELD OF STUDY</th>
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<tr>
<td>Texas A&amp;M University</td>
<td>PhD</td>
<td>05/12</td>
<td>Physiology of Reproduction</td>
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<td>Texas A&amp;M University</td>
<td>MS</td>
<td>12/04</td>
<td>Physiology of Reproduction</td>
</tr>
<tr>
<td>University of Rhode Island</td>
<td>BS</td>
<td>12/01</td>
<td>Animal Science and Technology</td>
</tr>
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</table>

A. Positions and Honors

Teaching Experience Overview

VIBS 489 – Science in Cinema and Society

Role: Lead Instructor 2011 – Present

As science and technology become increasingly pervasive in popular culture the lines between factual science and scientific fantasy become harder to distinguish, especially for the general public. This communication-intensive course is designed to foster undergraduates’ ability to critically evaluate the “science” they encounter outside the academic setting.

- Instructional design: traditional face-to-face
- Semesters offered: spring

VIBS 310 – Biomedical Writing

Role: Lead Instructor 2009 – Present

This writing-intensive course is designed to enhance undergraduates’ understanding of the mechanisms by which knowledge is shared within the scientific community, as well as how science is communicated to the public.

- Instructional design: blended (primarily web-based)
- Semesters offered: fall, spring, and 10-week summer
- Previously listed as BIMS 481

ANSC 433 – Reproduction in Farm Animals

Role: Lab Coordinator 2007 – 2009

This undergraduate course combines didactic methods and hands-on learning experiences to explore the principles of reproductive biology and management practices commonly utilized with agriculturally important animal species.

- Instructional design: traditional face-to-face
- Semesters offered: fall, spring, and 10-week summer

Teaching Activity
<table>
<thead>
<tr>
<th>Semester</th>
<th>Role</th>
<th>Course</th>
<th>Instruction Type</th>
<th>Credit Hours</th>
<th>Number of Students</th>
<th>Contact Hours</th>
<th>Course Evaluations: PICA (score out of 5)</th>
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<tr>
<td>2012C</td>
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<td>BIMS 481</td>
<td>web-based</td>
<td>1</td>
<td>121</td>
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<td>t.b.d.</td>
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<td>23</td>
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<tr>
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<td>46.5</td>
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<tr>
<td>2011A</td>
<td>lead instructor</td>
<td>BIMS 481</td>
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<td>91</td>
<td>30.9*</td>
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<td>1</td>
<td>40</td>
<td>56</td>
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<td>2010C</td>
<td>guest lecturer</td>
<td>ANSC 609</td>
<td>classroom</td>
<td>3</td>
<td>18</td>
<td>3.5</td>
<td>-</td>
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<tr>
<td>2010C</td>
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<td>BIMS 481</td>
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<td>1</td>
<td>75</td>
<td>25.5*</td>
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<tr>
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<td>1</td>
<td>75</td>
<td>105</td>
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<td>1</td>
<td>86</td>
<td>120.4</td>
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</table>

* Time and effort for interacting with students via online discussions are not included into these calculations.

**Teaching Awards and Fellowships**

U.S. Senator Phil Gramm Doctoral Fellowship 2009
- For scholarly excellence and outstanding teaching

Ronnie L. Edwards Graduate Teaching Award in Animal Science 2009
- For important contributions to the undergraduate student experience

NSF Graduate Teaching Fellow in K-12 Education 2004 - 2006
- Worked to foster interest and excitement for science in primary school students
**Service**

Departmental Committee Memberships:
- Veterinary Integrative Biosciences Teaching Committee 2011 - Present
- Veterinary Integrative Biosciences Website Taskforce Fall 2010

College Committee Memberships:
- IT Services Advisory Committee 2012 - Present

University Committee Memberships:
- Massive Open Online Course (MOOC) Exploration Committee 2012 - Present

**B. Selected Peer-reviewed Publications**

None

**C. Research Support**

None
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Larry Johnson

POSITION TITLE
Professor, Faculties of Toxicology and Reproduction

eRA COMMONS USER NAME (credential, e.g., agency login)
LAJOHNSON

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>North Carolina State University</td>
<td>BS</td>
<td>May 1971</td>
<td>Animal Science</td>
</tr>
<tr>
<td>Colorado State University</td>
<td>PhD</td>
<td>June 1978</td>
<td>Reprod. Physiol.</td>
</tr>
</tbody>
</table>

A. Personal Statement

To improve science education in rural middle schools and rural communities, I will help guide, as PI of this project, the training experiences of middle school science teachers and supervise the training and guidance of veterinarians who will engage in community outreach. As a scientist first and more recently a science educator, I have been able to blend science and education in a series of projects including three R25 and two NSF GK12 grants. As a scientist, I have published over 110 original, peer-reviewed, scientific journal articles; given invited scientific talks on four continents; won a national research award; served on a research panel for the United States Congress; served on NIH, NSF, USDA, and NIOSH grant review panels; received NIH and/or NSF Funding for over 25 years; served on editorial boards of their scientific journals; and received both college-level and university teaching awards for my histology courses. As PI of three R25 grants over the last 12 years, I have directed teacher training throughout the state, and curricular development for middle school science, math, social studies and English language arts. While our group of faculty were “Visiting Scientists” in middle schools statewide (38,000 K-12 students and their 1,727 teachers), I visited 23,000 of these K-12 students personally promoting health and appreciation of the scientific method to K-12 students and teachers. In addition to having a scientist visit their classroom, 1,150 middle school teachers received a 2-day workshop training on technology, integration or science curricular materials we developed and e-mentoring opportunities. Our group produced 150 days of integrative curriculum in four subject areas (all lessons tied to state educational standards). Our NSF GK12 project, on which I served as PI, trained 62 graduate students with science communication and mentoring through their K12 public school experiences. They interacted with 64 main teachers and 110 others and over 13,620 K-12 students (54% minority students and 59% eligible for reduced lunches). I have developed an elective for third year veterinary students in which they learn about pedagogy of public school interactions, develop a formal presentation, and give the presentation to middle school students (4-5 times @ ~ 100 students). Hence, I am experienced at effective teacher training and interactions, and with their interactions with veterinary students as well as graduate students. My background as a scientist has allowed me to recruit 21 scientists/veterinarians to partner with teachers on this project. My presentations to students and teachers of rural areas and professional development of teachers in rural areas, equip me to fuse basic science through animal and human subject use in research to a One Health concept whereby research benefits all species and environments. This fusion and One Health concept will be combined in professional development, curricular development and outreach to schools and communities.

B. Positions and Honors

Positions and Employment
1980-1987 Asst. Professor in Cell Biology, Univ. of Texas Health Science Center - Dallas, TX
1987-1992 Assoc. Professor, Division of Cell Biology & Ultrastructure, Department of Veterinary Anatomy, College of Veterinary Medicine, Texas A&M University, College Station, TX.  
1992-present Professor, Faculty of Toxicology, and Faculty of Reproductive Biology, Department of Veterinary Integrative Biosciences, College of Veterinary Medicine and Biosciences, Texas A&M University, College Station, Texas.

Other Experience and Professional Memberships

1989-1995 Member of the Editorial Board of Biology of Reproduction
1989-1995 Member of the Editorial Board of Journal of the American Aging Association
1997-present Member of the Editorial Board of Journal of Andrology

Honors

1983-1986 NIH New Investigator Research Award.
1988 Young Andrologist Award, from the American Society of Andrology.
1988 Invited speaker (Spermatogenesis, Animal Species and Humans) at 1988 International Symposium on Gamete Physiology, Serono Symposia, USA;
1990 Invited speaker (Spermatogenesis in humans and animal species), Japan Soc of Androl
1995 Invited speaker (Spermatogenesis in domestic animals and approaches to its enhancement) at the XI Brazilian Congress of Animal Reproduction.
1996 Invited speaker (Efficiency of Spermatogenesis in Humans), College of Medicine, University of Utrecht, The Netherlands.
1996 University-level teaching award from TAMU Honors Undergraduate Program.
1997 Invited speaker (Transplantation on Spermatogenesis: Sperm Decline in Humans), La Federation Francaise Pour L’etude de la Reproduction.
1999 College-level Teaching Award in Biomedical Science Undergraduate Program.
2001 The KINDER Award (Kids in Need of Drug Evaluation and Rx Treatment Clinic in Houston, TX) for contributions to the well being of children at risk through our Partnership for Environmental Education and Rural Health Program (http://peer.tamu.edu)
2001 Local Texas A&M University Chapter of Sigma Xi Science Communication Award.
2007 Association of Former Students Distinguished Achievement Award for Extension and Outreach from Texas &M University.
2008 Invited speaker (Introduction to Toxicology) at the University of Science and Technology—Beijing and at Beijing Normal University.
2009 Texas &M University Bush Excellence Award for Faculty in Public Service/Outreach
2012 Outstanding Educator Award – Dean’s Roundtable for College of Education and Human Development, Texas A&M University.

C. Selected Peer-reviewed Publications (Selected from 112 original)

Relevant Education Publications and Science Education Magazines to the current application


Chapters (selected from 16 review articles or book chapters)


Additional recent publications of importance to the field (in chronological order)


D. Research Support

**Ongoing Research Support**

NIH NCRR R25RR022711-01A2 “Science Promotion in Rural Middle Schools: Phase I and II.”
09/01/2007 - 06/30/2012

Project Goals: 1. Develop curricular materials for veterinarians to present in schools using Veterinarians’ Black Bag (VBB) items, follow-up lessons for teachers to present, and take-home pamphlets for parents and the general public. 2. Provide professional development training for public school teachers for instructions on implementation of the follow-up lessons, training for veterinary medical students to improve educational outreach and communication skills, and formal continuing education seminars for veterinarians on how to use the VBB items and how to increase communication effectiveness in public schools. 3. Engage large numbers of middle-school students and teachers by veterinarian visits on topics that promote science, research, and careers in biomedical sciences, capitalizing on the natural interest of children in animals and in the work of veterinarians.

**Completed Research Support**

NIH HD16773 "Modulation of spermatogenesis" for 4-1-1983 to 3-31-1992 Larry Johnson, Principal Investigator. Goal was to evaluate seasonal changes in spermatogenesis.

NIH AG00465-01 (RCDA) "Biology of the aging human testis" for 6/01/1991-11/30/98. Larry Johnson, Principal Investigator. Goal was to evaluate age-related decline in spermatogenesis.

NIH AG11093-10 (R01) "Control of Sertoli cell number and testicular size" for 6/01/1992-11/30/1998 Larry Johnson, Principal Investigator. Goal was to determine role of Sertoli cell number on sperm production rates.

NIH N01-HD-8-3281 "Declining Sperm Counts: Autopsy Study" 09/01/98 - 12/31/02 Larry Johnson, Principal Investigator. Goal was to evaluate decline in sperm production in recent years.

NIH R25-ES10443-01 "Environmental and Rural Health Education Partnership (Phase 1)" for 1999-2002 Larry Johnson, Principal Investigator. Goal was to set up a partnership for university-public school outreach.

NIH R25-ES10735-01 “Integrating Environmental Health Science in Rural Schools” 09/01/00 - 08/31/2007 Larry Johnson, Principal Investigator. Goals were to develop an integrative science curricular materials for middle school, train teachers, and have scientists visit schools.

NSF GK-12 0-338310 “Fellows Integrate Science/Math in Rural Middle Schools” 01/01/04 - 12/31/06 Larry Johnson, Principal Investigator. The goal was to have graduate students to serve as math and science content sources in public schools.

NSF GK12 grant “Continuation: Fellows Integrate Science in Rural Middles Schools, Larry Johnson, PI, 2007-2009 The goal was to have graduate students to serve as math and science content sources in public schools.

**Courses taught**

Scientific ethics to graduate students for the last 10 years.

Science communication course as veterinary student elective to hone their communication skills.

Histology for medical, veterinary, graduate, and/or undergraduate students for the last 25 years; the current course is writing intensive to aid graduate and undergraduate students in science communication.

**National review grant panels**

Currently Serving National grant review panel: NIOSH study section for agricultural disease and injury research, education, and prevention, 2011.

A. Personal Statement

Gerald R. North has been a Distinguished Professor of Atmospheric Sciences at Texas A&M University since 1986. He was the inaugural holder of the Harold J. Haynes Endowed Chair in Geosciences. He is currently Editor in Chief of the Encyclopedia of the Atmospheric Sciences. North received his PhD in theoretical physics from the University of Wisconsin in 1966 and has served eight years as a research scientist at NASA/Goddard Space Flight Center, where we was awarded a NASA Medal for Research Excellence. He has published in the fields of paleoclimatology, statistical methods in climate dynamics and in simplified models of climate and climate change. He was the proposer and first US Study Scientist for the Tropical Rainfall Measuring Mission, a satellite jointly supported by the US and Japan launched in 1997 and is still flying after 15 years. He is one of the most highly cited geoscientists (ISI Web of Science). A common theme in his research is the application of mathematical and statistical approaches to the better understanding of mechanisms of climate change both observational and theoretical. He is recipient of the Jule Charney Award for Research of the American Meteorological Society (AMS) and is a Fellow of the American Geophysical Union, AMS and AAAS.

B. Positions and Honors

- Holder of the Harold J. Haynes Endowed Chair in Geosciences, 2003-2008
- Head, Department of Atmospheric Sciences, Texas A&M University. September 1995-2003.
- Distinguished Professor of Meteorology and of Oceanography, Texas A&M University. September 1986 – present.
- Adjunct Professor of Geography, Texas A&M University. March 1990-present.
- Lecturer/Adjunct Prof., Department of Meteorology. University of Maryland. College Park, MD. 1980-86.
- Professor, Department of Physics. University of Missouri. St. Louis, MO. 1977-80.
- Associate Professor, Department of Physics. University of Missouri. St. Louis, MO. 1972-77.
- Visiting Scientist, Main Geophysical Observatory. Leningrad, USSR. May-July 1977.
- Senior Fellow, National Center for Atmospheric Research. Boulder, CO. 1974-75.
C. Selected Peer-reviewed Publications


D. Research Support

None
## BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
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<tbody>
<tr>
<td>Leon H. Russell</td>
<td>Senior Professor, Veterinary Anatomy &amp; Public Health/Veterinary Integrative Biosciences</td>
</tr>
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</table>

**eRA COMMONS USER NAME (credential, e.g., agency login)**

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

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<th>DEGREE (if applicable)</th>
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<th>FIELD OF STUDY</th>
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<tr>
<td>Univ. Of Missouri, Columbia, MO</td>
<td>B.S.</td>
<td>1953</td>
<td>Science</td>
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<tr>
<td>Tulane Univ., New Orleans, LA</td>
<td>M.P.H.</td>
<td>1958</td>
<td>Epidemiology</td>
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<tr>
<td>Texas A&amp;M Univ., College Station, TX</td>
<td>Ph.D</td>
<td>1965</td>
<td>Microbiology</td>
</tr>
<tr>
<td>Univ. Of Missouri, Columbia, MO</td>
<td>D.S. (Hon.)</td>
<td>2010</td>
<td>Science</td>
</tr>
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### A. Personal Statement

Briefly describe why your experience and qualifications make you particularly well-suited for your role (e.g., PD/PI, mentor, participating faculty) in the project that is the subject of the application. Within this section you may, if you choose, briefly describe factors such as family care responsibilities, illness, disability, and active duty military service that may have affected your scientific advancement or productivity.

### B. Positions and Honors

- **2013-Present** Professor Emeritus, Veterinary Integrative Biosciences
- **2011- 2012** Senior Professor, Veterinary Anatomy & Public Health / Veterinary Integrative Biosciences, Texas A&M University, College Station, TX.
- **1999-Present** Professor, Graduate Faculty of The Texas A&M University System Health Science Center Graduate School of Biomedical Sciences
- **1998-Present** Professor, Epidemiology and Biostatistics, School of Rural Public Health, Texas A&M Univ.
- **1996-Present** Professor, Toxicology, Texas A&M University, College Station, TX.
- **1969-2011** Professor, Veterinary Anatomy & Public Health / Veterinary Integrative Biosciences, Texas A&M University, College Station, TX.
- **1978-Present** Professor, Food Science and Technology, Texas A&M University, College Station, TX.
- **1977-Present** Professor, Medical Microbiology and Immunology, Texas A&M Univ., College Station, TX.
- **1976-1979** Professor, Veterinary Microbiology and Parasitology, Texas A&M Univ., College Station, TX.
- **1965-1969** Associate Professor, Veterinary Public Health, Texas A&M University, College Station, TX.
- **1959-1965** Assistant Professor, Veterinary Public Health, Texas A&M University, College Station, TX.

### HONORS AND AWARDS:

- Phi Tau Sigma, Gamma Sigma Delta, Phi Kappa Phi, Sigma Xi, Phi Zeta
- Texas Veterinary Medical Association Faculty Achievement Award (1969), Research Award (1988)
- Texas A&M University Veterinary Students "Good Stick Award" (1974)
- Norden Distinguished Teaching Award (1977)
- Former Students Association Faculty Distinguished Achievement Award (1979)
Former Students Association, College of Veterinary Medicine Teaching Excellence Award (1982)
Association of Teachers of Veterinary Public Health & Preventive Medicine of the U.S. & Canada, Award of
Recognition (1984)
Texas Veterinarian Medical Association, President (1984-1985)
Alumnus of the Year, University of Missouri, College of Veterinary Medicine, Alumni Association (1985)
American College of Veterinary Preventive Medicine-Appreciation Award (1985), Distinguished Diplomate
(1989)
Council for Agriculture and Science, Board of Directors (1987-91)
TAMU Deputy Chancellor's Award for Excellence in Graduate Teaching (1990)
American College of Veterinary Preventive Medicine Certificate of Appreciation (1990)
American Veterinary Epidemiology Society, Honorary Diploma (1990)
Louisiana Veterinary Medical Association, Resolution of Recognition (1991)
Commonwealth of Kentucky, Gov. B.C. Jones, Commissioned as Kentucky Colonel (1992)
El Paso, Texas, Mayor Larry Francis, Key to the City of El Paso (1994)
American Veterinary Medical Association, President (1993-1994)
Association of Military Surgeons of the U.S., James A. McCallam Award (1994)
Texas Department of Health’s Committee on “Veterinary Response to Chemical in Biological Terrorism in
Texas” (1998)
International HACCP Alliance, Board of Directors (1996-2009)
Helwig-Jennings Award, American College of Veterinary Preventive Medicine (1998)
B.G. Russell McNellig Memorial Lecturer, 49th International Military Veterinary Med. Symposium, Chiemsee,
Germany (1998)
Distinguished Membership, Texas Veterinary Medical Association (1998)
XIIIth International Veterinary Congress Prize (2000)
World Veterinary Association Vice-President (2002-2005); World Veterinary Association President (2005-2008)
Southwest Veterinary Symposium Award for World Leadership in Veterinary Medicine (2005)
AVMA President’s Award (2006)
American Veterinary Epidemiology Society’s “2007 K.F. Meyer-James H. Steel Gold Head Cane Award”,
The Association of American Veterinary Medical Colleges’ “Senator John Melcher, ” DVM Leadership in Public
The “J.V. Iron’s Speaker” at the 53rd James Steele 53rd Diseases in nature transmissible to Man Conference,
April 22, 2008, Galveston, Texas.
University of Missouri bestowed an honorary Doctor of Science Degree, May 15, 2010, Columbia, Missouri.
American Veterinary Medical Association’s “AVMA Award”, July 31, 2010, Atlanta, Georgia.
Texas Veterinary Medical Association’s “2011 Distinguished Career Achievement Award”, March 5, 2011
World Veterinary Association’s Honorary Membership, Cape Town, South Africa, October 15, 2011
El Paso Veterinary Medical Association’s Siempre Amigos Award, EPVMA Community Awards, El Paso, TX
May 8, 2012
Texas Veterinary Medical Association President’s Award, College Station, TX, March 2, 2013

**FEDERAL GOVERNMENT PUBLIC ADVISORY COMMITTEE**

1. Served on USDA, FSIS Advisory Committee: Risk Assessment of Pre-Slaughter Hazard of Red
Meats, 1992-93.
2. Served on the Planning Committee of the USDA, FSIS National Forum on Food Animal Production

C. Selected Peer-reviewed Publications


D. Research Support

None
**BIOGRAPHICAL SKETCH**

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---

**NAME**  
Anthony N. Stranges

**POSITION TITLE**  
Associate Professor, History

---

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

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<tr>
<td>University of Wisconsin, Madison</td>
<td>PhD</td>
<td></td>
<td>History of Science</td>
</tr>
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<td>Niagara University</td>
<td>MS</td>
<td></td>
<td>Chemistry</td>
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<tr>
<td>Niagara University</td>
<td>BS</td>
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<td>Chemistry</td>
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**A. Personal Statement**

Briefly describe why your experience and qualifications make you particularly well-suited for your role (e.g., PD/PI, mentor, participating faculty) in the project that is the subject of the application. Within this section you may, if you choose, briefly describe factors such as family care responsibilities, illness, disability, and active duty military service that may have affected your scientific advancement or productivity.

---

**B. Positions and Honors**

1983 – Present  
Associate Professor, History Department

1977 - 1982  
Assistant Professor, History Department

1977 - 1982  
Member, German Document Retrieval Project

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**TEACHING**

History of the United States: History 106, 106H (Honors), 1061 (International)

Interplay of Scientific Thought and Society: Liberal Arts (LBAR) 203

History of Science in America: History 363, History 363H (Honors)

History of Science: History 362, History 362H (Honors)

Science Literacy: A Biographical Approach to Science Literacy: History 376

Issues in Science, Religion and Society Undergraduate Seminar: History 481

Graduate Faculty Member: serve as chair, co-chair, and member of MS and PhD graduate advisory committees

History 485: Problems; History 497: Honors; History 685: Problems; History 691: Research

Faculty Advisor to Phi Alpha Theta, History National Honor Society

---

**HONORS AND AWARDS**

Texas A&M University Faculty Development Leave, Spring 1999

Texas A&M Association of Former Students University-Level Distinguished Teaching Award, 1988

Texas A&M University Faculty Development Leave, Spring 1987
C. Selected Peer-reviewed Publications

Books

Book Chapters

Articles

SCHOLARLY PRESENTATIONS
• "Key Scientists in the History of Air Pollution," XXII International Congress of the History of Science, Beijing, China, July 2005.
• "Responses to Air and Water Pollution in the United States from the 1900s to the 1950s," International Committee for the History of Technology, Thirtieth Symposium, St. Petersburg and Moscow, August 2003.

D. Research Support

**RESEARCH IN PROGRESS**

- *Fischer-Tropsch Website (with Syntroleum Corporation, Tulsa, Oklahoma)*, The Fischer-Tropsch Archive, a website (www.fischer-tropsch.org), contains an extensive collection of documents on the development of the Fischer-Tropsch and related synthetic fuels processes in Germany, Britain, Japan, the United States, and other countries from the 1920s to the 1970s. The purpose of the website is to put in the public domain the chronology of the Fischer-Tropsch's eighty-year development, indicating the current state of the process and its potential for further technological advancement.
- *Transforming America*. This is a book-length manuscript on the history of science in America.
- *Farrington Daniels: Physical Chemist and Pioneer of Alternative Energy*. This book-length manuscript examines the career of Farrington Daniels, well-known chemist, textbook writer, and pioneer in the study of solar energy.
- *Petroleum From Coal: Its German Roots and International Development 1910-60*. This is a book-length manuscript on the historical development of coal-to-oil conversion (synthetic fuel) process in the twentieth century. It examines the technological emergence and the social, political, and economic impact of the coal-to-oil conversion process in Europe, Japan, and North America.

**RESEARCH AND TRAVEL GRANTS**

- Texas A&M University, College of Liberal Arts International Travel Grants. 2003-2010: $7,500; 1996-2002: $3,000 Texas A&M University International Research Travel Assistance Grant. 2002: $2,000.
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Ed Walraven

POSITION TITLE
Senior Lecturer, Liberal Arts (JOUR Studies)

eRA COMMONS USER NAME (credential, e.g., agency login)

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

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<tr>
<td>Angelo State U. (San Angelo, Texas)</td>
<td>B.A.</td>
<td>05/70</td>
<td>Journalism</td>
</tr>
<tr>
<td>Texas A&amp;M U.</td>
<td>M.A.</td>
<td>12/77</td>
<td>English</td>
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<tr>
<td>Texas A&amp;M U.</td>
<td>Ph.D.</td>
<td>08/99</td>
<td>History</td>
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A. Personal Statement

For almost a decade, I was the chief science/medicine/technology writer and editor for the Texas A&M public information office (now a P.R. and marketing office). In that capacity I regularly conducted interviews with scientists and other researchers, wrote science journalism stories for the general public, and worked to have them accepted and published worldwide. Following that experience, I continued as an instructor of writing for more than 20 years and served on the Graduate Faculty from the year 2000 to present. These experiences have presented a strong background for instructing and preparing students of science and technology journalism.

B. Positions and Honors

1970 to 1972, Staff Writer, San Angelo, Texas, Standard-Times (newspaper)
1972 to 1974, Assistant City Editor, San Angelo, Texas, Standard-Times
1981/82, Paul Ellis Award presented by Texas Heart Association
1986, Invited Entry, “Into the Eye of the Atom,” Texas Almanac
1991 to 2000, Lecturer, Texas A&M U. Department of Journalism
1995 to 2004, Coordinator, Undergraduate Advising, Journalism, Texas A&M U.
2000 to present, Member, Graduate Faculty, Texas A&M U.
2000 to 2004 (department closed), Senior Lecturer, Journalism
2004 to present, Senior Lecturer, Journalism Studies, Liberal Arts

C. Selected Peer-reviewed Publications

Peer Reviewed Publications/Chapters/Entries:


D. Research Support

No research projects that receive outside funding are being conducted.
**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

**NAME**
C. Jane Welsh

**POSITION TITLE**
Professor and Associate Department Head and Assistant Dean for Graduate Studies

**eRA COMMONS USER NAME (credential, e.g., agency login)**
CJWelsh

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

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<th>FIELD OF STUDY</th>
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<tr>
<td>University of London, U.K.</td>
<td>B.Sc.</td>
<td>06/76</td>
<td>Microbiology</td>
</tr>
<tr>
<td>University of London, U.K.</td>
<td>Ph.D.</td>
<td>10/81</td>
<td>Immunology/Biochem.</td>
</tr>
<tr>
<td>King’s College Hospital, U.K.</td>
<td>Postdoc</td>
<td>1979-1981</td>
<td>Autoimmune liver</td>
</tr>
<tr>
<td>Dept. of Pathology, Cambridge, U.K.</td>
<td>Postdoc</td>
<td>1982-1985</td>
<td>Rheumatoid arthritis</td>
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<tr>
<td>Dept. of Pathology, Cambridge, U.K.</td>
<td>Postdoc</td>
<td>1985-1989</td>
<td>Multiple sclerosis</td>
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</table>

**A. Personal Statement**

The long-term goal of our research group is to determine the pathogenesis of multiple sclerosis. To this end, we have been intensively investigating the Theiler’s virus-induced demyelination (TVID) model of MS since 1985. We have studied the immune response to Theiler’s virus and described autoimmune phenomena that develop during the course of the disease. We have also studied the role of the blood-brain barrier and mechanisms of potential therapeutics in the model. More recently, we have investigated the role of stress in the development of Theiler’s virus-induced demyelination. My training in microbiology, immunology and neuroscience has been beneficial in training graduate students for careers in interdisciplinary research.

**B. Positions and Honors**

1988-1989  Special Supervisor in Pathology, Newnham College, Cambridge University
1989-present Visiting Assistant Professor (1989-1991), Assistant Professor (1991-2000); Associate Professor (2000-2006), Professor (2006-present) Dept. of Veterinary Integrative Biosciences and Dept. of Veterinary Pathobiology, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University
1991-present Member of the Faculty of Neuroscience and Graduate Faculty, Texas A&M University
1998-present Member of the Genetics Faculty, Biotechnology Faculty and Executive Committee of the Faculty of Virology, Texas A&M University
2002-present Departmental Graduate Advisor
2006-present Associate Department Head, Dept. Veterinary Integrative Biosciences
2007-present Joint appointments in the Dept. Neuroscience and Experimental Therapeutics, College of Medicine, Texas A&M Health Science Center and Dept. Psychology, Texas A&M University
2011-present Chair of the Texas A&M Institute for Neuroscience
2011-present Assistant Dean for Graduate Studies, College of Veterinary Medicine

**Other Experience and Professional Memberships**

**External Reviewer**
2001 Alzheimer’s Association Grant Reviewer
2003 Biotechnology and Biological Sciences Research Council, UK
2004 NIH Brain Disorders and Clinical Neuroscience Special Emphasis Panel (ZRG1-NMB)
2005 2006 NSF Fellowship Review Panel, NMSS Pilot Grant Reviewer
2005 2006 NSF Fellowship Review Panel
2006 NIH Brain Disorders and Clinical Neuroscience Special Emphasis Panel
Program Director/Principal Investigator (Welsh, C. Jane):

2007  2008  2009 American Heart Association Grant Review Panel
2009  NIH Clinical Neuroimmunology and Brain Tumor Grant Review Panel
2010  NSF Grant Reviewer
2011  NIH P50 Reviewer

Editorial Board: Brain, Behavior and Immunity

AWARDS
2010  Texas A&M University's Women's Progress Award for faculty
2011  Texas A&M University's Women's Faculty Outstanding Mentoring Award

C. Selected Peer-reviewed Publications


Vichaya EG, Young EE, Reusser NM, Cook JL, Steelman AJ, Welsh CJR, & Meagher MW (2011) Social Disruption Induced Priming of CNS Inflammatory Response to Theiler’s Virus is Dependent upon Stress Induced IL-6 Release. J. Neuroimmunology, 239: 44-52. PMID 2200153


D. Research Support

NIH/NINDS RO1 NS060822 Meagher (PI) 12/01/2007-1/30/14 (includes two year no-cost extension)
Impact of stress-induced cytokines on an animal model of MS
Goals: This grant examines the role of cytokines in mediating the adverse effects of social stress on Theiler’s virus infection.
Role: Co-PI

Programmatic Development Award from Texas A&M Health Science Center
Effect of estrogen on the neuropathogenesis of Theiler's virus infection
Role: PI

Comparative Biomedical Research Training for Veterinarians NIH-NRSA Institutional Research Training Grant T32
Role Mentor
PI: Dr. Ann Kier
BIOGRAPHICAL SKETCH

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NAME
Angela G. Clendenin

POSITION TITLE
Director, Public Relations & Communications

eRA COMMONS USER NAME (credential, e.g., agency login)

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

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<td>Seton Hall University</td>
<td>MS</td>
<td>2005</td>
<td>Strategic Communication and Leadership</td>
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<tr>
<td>Texas A&amp;M University</td>
<td>BA</td>
<td>1991</td>
<td>Journalism</td>
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A. Personal Statement

As Director, responsible for media relations, publications, special events, strategic communication initiatives, risk/crisis communication. Coordinate the Vet Med Ambassador tour program. Part of the instructional team for the first ever required rotation for fourth year veterinary medical students in emergency response – teaching risk/crisis communication and media relations. Supervise four full time employees (graphic artists, photographer, communication specialist) and three student workers.

B. Positions and Honors

2006-present Director, Public Relations & Communications, College of Veterinary Medicine & Biomedical Sciences, Texas A&M University, College Station, TX

1994-2006 Communication Specialist, Office of Communications, St. Joseph Regional Health Center St. Joseph Health System, Bryan, TX

MEMBERSHIPS and AWARDS

International Association of Business Communicators – Brazos Valley Chapter
Texas A&M University Brand Council
Texas A&M University Senior Communicators

SELECTED PRESENTATIONS

2011 “Working with the Media”, September 28 TPHA Mid-Year Conference

TEACHING

2008-Present Regular guest lecture in Biomedical Reporting and Risk Communication Classes taught by Dr. Barbara Gastel as part of the Science and Technology Journalism Masters program in the College of Veterinary Medicine & Biomedical Sciences

2012 Guest lecturer on February 21 for the PHPM 642 course offered in Spring 2012 by Dr. Barbara Quiram in the School of Rural Public Health in the Texas A&M System Health Science Center

May 2012-Present Member of the instructional team for the Community Connections rotation covering Emergency Response for 4th year veterinary students
COMMITTEES
2006-Present  Member of Executive Committee for College of Veterinary Medicine & Biomedical Sciences
2010-Present  Member of Development Team Planning Committee

C. Selected Peer-reviewed Publications
None

D. Research Support
None
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Keith Randall

POSITION TITLE
Science Writer, Associate Director of Communications and Marketing

eRA COMMONS USER NAME (credential, e.g., agency login)

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

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<tr>
<td>Baylor University</td>
<td>MS</td>
<td>1987</td>
<td>American Studies</td>
</tr>
<tr>
<td>North Texas State</td>
<td>BS</td>
<td>1973</td>
<td>Journalism</td>
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A. Personal Statement

10 years media experience (Waco Tribune-Herald);
32 years college PR experience
Winner of 37 communications awards
11 years college teaching experience (6 at Baylor, 5 at Texas A&M)
Extensive media contacts in Texas and the Southwest

B. Positions and Honors

**Waco Tribune-Herald 1973-1982:**
Covered the Dallas Cowboys, Baylor University and the Southwest Conference. Winner of 7 awards from the Texas Sportswriter's Association.

**Baylor University, 1982-98:**
Served as news director and public relations director. Organized and coordinated more than 100 news conferences and special events. Supervised staff of 15 employees, 5 student workers and $1 million budget.

**Texas A&M University, 1998 to present:**
Served as science writer, associate director of communications and marketing, media relations specialist, communications liason to 5 colleges.

**Awards, Honors**
Winner of 37 communication awards from the Associated Press, United Press International, Council for the Advancement and Support of Education (CASE), the Texas Sportswriters Association, Texas Public Relations Association, Baptist Public Relations Association, and International Association of Business Communicators

Accredited in public relations, earning APR designation in 1991 and former board member and director of Central Texas Public Relations Association.

**Courses Taught**
At Baylor University, “Introduction to Mass Communication,” “Beginning Reporting and Writing” and “Sportswriting.”

Crisis Communications, Big Events:

At Baylor:
- 1986 NCAA Basketball Investigation
- 1992 NCAA Basketball Investigation
- 1991 Baylor Charter Change
- 1996 Baylor’s First Dance
- Created Baylor’s First President’s Media Luncheon (1985)

At Texas A&M:
- Bonfire collapse 1999
- Cow cloning 1999
- First cloned cat 2002, cloned deer in 2005
- George Bush Parachute Jumps 1999 and 2004

C. Selected Peer-reviewed Publications

None

D. Research Support

None
BIOGRAPHICAL SKETCH

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<tbody>
<tr>
<td>Kathy Wythe</td>
<td>Communications Manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Texas Water Resources Institute</td>
<td></td>
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<td></td>
<td>Texas A&amp;M Institute of Renewable Natural Resources</td>
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EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

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<th>FIELD OF STUDY</th>
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<tr>
<td>Texas Tech University, Lubbock, Texas</td>
<td>BA</td>
<td>12/1975</td>
<td>Zoology</td>
</tr>
<tr>
<td>University of Missouri, Columbia, Missouri</td>
<td>MA</td>
<td>12/1980</td>
<td>Journalism</td>
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A. Personal Statement

As Communications Manager for the Texas Water Resources Institute and Texas A&M Institute of Renewable Natural Resources, Kathy Wythe serves as supervisor for students interning at the institutes as part of the program. With 20 years of experience in the communications field, Wythe is experienced in all aspects of communications, including writing, editing, designing, marketing and public relations. Student interns produce work for a magazine, electronic newsletter and a peer-reviewed online scientific journal. Wythe has a masters in journalism from the University of Missouri School of Journalism, has taught media writing and public relations courses at Texas A&M University and is currently teaching a mass communications course at a junior college. She is a former public relations manager for a large public hospital and a former newspaper reporter.

B. Positions and Honors

- 1981-1982   Reporter, The Odessa American, Odessa, Texas
- 1982-1987   Community Relations Coordinator, Medical Center Hospital, Odessa, Texas
- 1988-1990   News & Information Writer, Odessa College, Odessa, Texas
- 1992-1993   Assistant Lecturer, Journalism Department, Texas A&M University
- 2001-2004   Assistant Lecturer, Journalism Department, Texas A&M University
- 2005-2010   Communications Coordinator, Texas Water Resources Institute
- 2009-Present Mass Communications Instructor, Blinn College
- 2010-Present Communications Manager, Texas Water Resources Institute, Texas A&M Institute for Renewable Natural Resources

C. Selected Peer-reviewed Publications

None

D. Research Support

None
Appendix L:

Previous Degrees: STJR Students, 2006 and Later Entry
### Previous Degrees: STJR Students, 2006 and Later Entry

<table>
<thead>
<tr>
<th>Entry</th>
<th>Student*</th>
<th>Previous Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2006</td>
<td>Barbara Chamberlain (Mendoza)</td>
<td>BA, Communications, Newbury College, Brookline, MA, 2005</td>
</tr>
<tr>
<td></td>
<td>Amelia Williamson (Smith)</td>
<td>BA, Philosophy, Texas A&amp;M University, 2006</td>
</tr>
<tr>
<td>Fall 2007</td>
<td>Min-Fang Huang</td>
<td>BS, Medical Radiation Technology, National Yang-Ming University, Taiwan, 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS, Biomedical Engineering, National Yang-Ming University, Taiwan, 2005</td>
</tr>
<tr>
<td></td>
<td>Misha Kidambi</td>
<td>BSc, Microbiology, University of Mumbai, India, 2001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MSc, Microbiology, University of Mumbai, India, 2003</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>Bernard Appiah</td>
<td>BPharm, Kwame Nkrumah University of Science and Technology, Ghana, 2002</td>
</tr>
<tr>
<td></td>
<td>Marissa Doshi</td>
<td>BSc, Life Sciences/Biochemistry, University of Mumbai, India, 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS, Life Sciences/Applied Medical Sciences, University of Mumbai, 2004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MSc, Biotechnology, University of Abertay Dundee, UK, 2005</td>
</tr>
<tr>
<td></td>
<td>Jingang Miao</td>
<td>Bachelor of Management, E-Business, Peking University, 2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BA, Biomedical English, Peking University, 2008</td>
</tr>
<tr>
<td></td>
<td>Naveed Saleh</td>
<td>BA, Biology, Cornell University, 1998</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MD, Wayne State University School of Medicine, 2006</td>
</tr>
<tr>
<td>Spr 2009</td>
<td>Emily Roberge (White)</td>
<td>BS, Biochemistry/Microbiology, University at Albany, New York, 2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS, Molecular and Human Genetics, Baylor College of Medicine, Houston, TX, 2009</td>
</tr>
<tr>
<td></td>
<td>Roma Subramanian</td>
<td>BS, Botany, Ramnarain RuiaCollege, Mumbai, India, 2001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS, Life Sciences, University of Mumbai, India, 2004</td>
</tr>
<tr>
<td></td>
<td>Kristina Twigg</td>
<td>BS, Bioenvironmental Sciences, Texas A&amp;M University, 2004</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>Wuraola Aribisala (Jacobs)</td>
<td>Bachelor of Technology, Biochemistry, Ladoke Akintola University of Technology, Nigeria, 2007</td>
</tr>
<tr>
<td></td>
<td>Wenhua Lu</td>
<td>BA, English, Shandong University, China, 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MA, Translation, Beijing International Studies University, 2009</td>
</tr>
<tr>
<td></td>
<td>Christina Sumners</td>
<td>BA, Neuroscience, Pomona College, Claremont, CA, 2008</td>
</tr>
<tr>
<td></td>
<td>Antonio Villarreal</td>
<td>BA, English, Universidad de Cordoba, Spain, 2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MA, Journalism, Universidad Complutense, Spain, 2006</td>
</tr>
<tr>
<td>Spr 2010</td>
<td>George Hale</td>
<td>BS, Journalism, Texas A&amp;M University, 2002</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>Alejandra Arreola</td>
<td>BA, Biology, Universidad Autónoma de Nuevo León, Mexico, 2008</td>
</tr>
<tr>
<td></td>
<td>Katherine Cowart</td>
<td>BS, Biomedical Sciences, Texas A&amp;M University, 2006</td>
</tr>
<tr>
<td></td>
<td>Parvathy Hariharan</td>
<td>Bachelor of Technology in Industrial Technology, Bharath Institute of Higher Education and Research, India, 2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS, Biology, State University of New York at Buffalo, 2010</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>Jessica Orwig</td>
<td>BS, Astronomy, Ohio State University, 2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS, Physics, Ohio State University, 2011</td>
</tr>
<tr>
<td></td>
<td>Manjusha Sala</td>
<td>BS, Biotechnology, Osmania University, India, 2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS, Biotechnology, University of Abertay Dundee, UK, 2007</td>
</tr>
<tr>
<td></td>
<td>Kathryn Saucier</td>
<td>BS, Renewable Natural Resources, Texas A&amp;M University, 2010</td>
</tr>
<tr>
<td>Sum 2012</td>
<td>Michelle Yeoman</td>
<td>BS, Biology, University of Houston, 2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS, Biology, Texas A&amp;M University, 2012</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>Jessica Scarfuto</td>
<td>BA, International Studies, Manhattan College, Riverdale, NY, 2011</td>
</tr>
<tr>
<td></td>
<td>Mary Beth Schaefer</td>
<td>BA, Health: Science, Society, and Policy; Hispanic Studies, Brandeis University, Waltham, MA, 2010</td>
</tr>
<tr>
<td></td>
<td>Kelly Tucker</td>
<td>BS, Biomedical Sciences, Texas A&amp;M University, 2012</td>
</tr>
<tr>
<td></td>
<td>Christina Wilcox</td>
<td>BS, Biomedical Sciences, Texas A&amp;M University, 2012</td>
</tr>
</tbody>
</table>

*If the surname has changed since program entry, the current surname is in parentheses.

Note: Information is not provided for the 1 student who transferred into the program and was later dismissed.
Appendix M:

Thesis Titles and Internship Sites: STJR Graduates, 2006 and Later Entry
### Thesis Track

<table>
<thead>
<tr>
<th>Entry</th>
<th>Name of Student</th>
<th>Thesis Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2008</td>
<td>Bernard Appiah</td>
<td>Science Journalism in Ghana: A Study of Journalists Who Cover Science</td>
</tr>
<tr>
<td>Spr 2009</td>
<td>Roma Subramanian</td>
<td>Best Practices of Print Journalists Who Have Won Awards for Mental-Health Reporting: A Qualitative Interview Study</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>Mary Beth Schaefer</td>
<td>(pending)</td>
</tr>
</tbody>
</table>

### Internship Track

<table>
<thead>
<tr>
<th>Entry</th>
<th>Name of Student1</th>
<th>Internship Site2,3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2006</td>
<td>Barbara Chamberlain (Mendoza)</td>
<td>Science Editor (magazine of the Council of Science Editors)</td>
</tr>
<tr>
<td></td>
<td>Amelia Williamson (Smith)</td>
<td>Fermi National Accelerator Laboratory (Fermilab), Batavia, Illinois</td>
</tr>
<tr>
<td>Fall 2007</td>
<td>Min-Fang Huang</td>
<td>AgriLife Communications, Texas A&amp;M University</td>
</tr>
<tr>
<td></td>
<td>Misha Kidambi</td>
<td>News and Information Services, Texas A&amp;M University</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>Marissa Doshi</td>
<td>Engineering Communications, Texas A&amp;M University</td>
</tr>
<tr>
<td></td>
<td>Jingang Miao</td>
<td>News and Information Services, Texas A&amp;M University</td>
</tr>
<tr>
<td></td>
<td>Naveed Saleh</td>
<td><em>The New Physician</em>, Reston, Virginia</td>
</tr>
<tr>
<td>Spr 2009</td>
<td>Emily Roberge (White)</td>
<td>The John M. Eisenberg Clinical Sciences and Communications Science Center, Baylor College of Medicine, Houston, Texas</td>
</tr>
<tr>
<td></td>
<td>Kristina Twigg</td>
<td>American Water Works Association, Denver, Colorado</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>Wuraola Aribisala (Jacobs)</td>
<td>News and Information Services, Texas A&amp;M University</td>
</tr>
<tr>
<td></td>
<td>Wenhua Lu</td>
<td>AgriLife Communications, Texas A&amp;M University</td>
</tr>
<tr>
<td></td>
<td>Christina Sumners</td>
<td>NOVA Science Unit, WGBH, Boston, Massachusetts</td>
</tr>
<tr>
<td></td>
<td>Antonio Villarreal</td>
<td>Office of Public Relations, Texas A&amp;M University College of Veterinary Medicine and Biomedical Sciences</td>
</tr>
<tr>
<td>Spr 2010</td>
<td>George Hale</td>
<td>College of Geosciences, Texas A&amp;M University</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>Alejandra Arreola</td>
<td>Texas Water Resources Institute/Texas A&amp;M Institute of Renewable Natural Resources</td>
</tr>
<tr>
<td></td>
<td>Katherine Cowart</td>
<td><em>Emerging Infectious Diseases</em>, Centers for Disease Control and Prevention, Atlanta, Georgia</td>
</tr>
<tr>
<td></td>
<td>Parvathy Hariharan</td>
<td>Texas A&amp;M Biotechnology Program and Texas A&amp;M Chemical Engineering Department</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>Jessica Orwig</td>
<td>American Geophysical Union, Washington, DC</td>
</tr>
<tr>
<td></td>
<td>Manjusha Sala</td>
<td>Department of Scientific Publications, The University of Texas MD Anderson Cancer Center, Houston, Texas</td>
</tr>
<tr>
<td></td>
<td>Kathryn Saucier</td>
<td>Texas Water Resources Institute/Texas A&amp;M Institute of Renewable Natural Resources</td>
</tr>
<tr>
<td>Sum 2012</td>
<td>Michelle Yeoman</td>
<td>(pending)</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>Jessica Scarfuto</td>
<td>(pending)</td>
</tr>
<tr>
<td></td>
<td>Kelly Tucker</td>
<td>(pending)</td>
</tr>
<tr>
<td></td>
<td>Christina Wilcox</td>
<td>(pending)</td>
</tr>
</tbody>
</table>

1 If the surname has changed since program entry, the current surname is in parentheses.
2 Geographic locations are specified for internships occurring outside College Station, Texas.
3 Only internships done for academic credit are listed. Some students also did non-credit internships.
Appendix N:

Follow-Up: STJR Graduates, 2006 and Later Entry
## Follow-Up: STJR Graduates, 2006 and Later Entry

Blue shading indicates employment in science communication or a related field; yellow shading indicates doctoral study.

<table>
<thead>
<tr>
<th>Entry</th>
<th>Name of Student</th>
<th>Graduation</th>
<th>Current Pursuit</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2006</td>
<td>Barbara Chamberlain (Mendoza)</td>
<td>Fall 2006</td>
<td>Fall 2010 Communications Coordinator, Engineering Student Services and Academic Programs, Texas A&amp;M University since Sep 2012</td>
<td>Was employed at Blinn College (local community college) from Mar 2006 to Aug 2012</td>
</tr>
<tr>
<td>Spring 2008</td>
<td>Amelia Williamson (Smith)</td>
<td>Spring 2008</td>
<td>Medical Writer, John M. Eisenberg Center for Clinical Communications Science, Baylor College of Medicine (Houston, TX)</td>
<td>Before taking current position worked as document manager at Fermi National Accelerator Laboratory; has also done freelance writing</td>
</tr>
<tr>
<td>Fall 2007</td>
<td>Min-Fang Huang</td>
<td>Fall 2007</td>
<td>Fall 2009 [recently known to be doing freelance writing in California]</td>
<td>[writing has appeared in professional-society periodicals for science communicators]</td>
</tr>
<tr>
<td>Spring 2009</td>
<td>Misha Kidambi</td>
<td>Spring 2009</td>
<td>Web Content Manager, International Centre for Theoretical Physics (ICTP) (Trieste, Italy)</td>
<td>After graduation did a year-long internship at the International Atomic Energy Agency (IAEA)</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>Bernard Appiah</td>
<td>Fall 2008</td>
<td>Fall 2010 Doctoral Student in Public Health (majoring in Health Promotion and Community Health Sciences) at Texas A&amp;M School of Rural Public Health since Fall 2010</td>
<td>Previous recipient of pharmacy degree; since graduation has been active in freelance writing for the Canadian Medical Association Journal and for SciDev.Net (Science and Development Network)</td>
</tr>
<tr>
<td>Spring 2010</td>
<td>Marissa Doshi</td>
<td>Spring 2010</td>
<td>Doctoral Student in the Department of Communication, Texas A&amp;M University, since Fall 2010</td>
<td>Received Regents Fellowship in 2010–2011; three papers have received recognitions at conferences</td>
</tr>
<tr>
<td>Spring 2010</td>
<td>Jingang Miao</td>
<td>Spring 2010</td>
<td>Doctoral Student in Statistics, Texas A&amp;M University, since Summer 2010</td>
<td>Leader, Finalist Team, Capital One Fraud Detection Competition, 2012</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>Naveed Saleh</td>
<td>Fall 2010</td>
<td>Fall 2010 Freelance Writer and Editor (San Diego, CA)</td>
<td>Previous recipient of MD degree; blogs for Psychology Today, has an editing service, and has a contract from a well-established publisher for a book on article writing</td>
</tr>
<tr>
<td>Spr 2009</td>
<td>Emily Roberge (White)</td>
<td>Fall 2009</td>
<td>Fall 2010 Scientific Communications, Center for the Advancement of Science in Space (CASIS) (Houston, TX) since Sep 2011</td>
<td>Before taking current position was a medical writer at the John M. Eisenberg Center for Clinical Decisions and Communications Science, Baylor College of Medicine (Houston, TX); also has a freelance business, mainly in scientific editing</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>Roma Subramanian</td>
<td>Fall 2011</td>
<td>Fall 2011 Doctoral Student in Journalism, University of Missouri, since Jan 2012</td>
<td>Has a graduate fellowship; has presented a paper at the Association for Education in</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------</td>
<td>-------------</td>
<td>------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Kristina Twigg</td>
<td>Summer 2010</td>
<td>Assistant Manager, Water Science &amp; Engineering Center, Water Environment Federation (Alexandria, VA) since Nov 2010</td>
<td>Main activities: reporting, technical writing, social media management, Web strategy, management of volunteers</td>
<td></td>
</tr>
<tr>
<td>Wuraola Aribisala (Jacobs)</td>
<td>Summer 2011</td>
<td>Doctoral Student in Health Education, Department of Health and Kinesiology, Texas A&amp;M University</td>
<td>Entered doctoral program in nutrition at Texas A&amp;M University immediately after graduation; then transferred to current program</td>
<td></td>
</tr>
<tr>
<td>Wenhua Lu</td>
<td>Summer 2011</td>
<td>Doctoral Student in Health Education, Department of Health and Kinesiology, Texas A&amp;M University since Fall 2011</td>
<td>Has received a research award and travel grants during her doctoral study</td>
<td></td>
</tr>
<tr>
<td>Christina Summers</td>
<td>Fall 2011</td>
<td>Communications Specialist, Texas A&amp;M University College of Veterinary Medicine and Biomedical Sciences starting March 2013</td>
<td>Initially after graduation had temporary jobs in writing and editing</td>
<td></td>
</tr>
<tr>
<td>Antonio Villarreal</td>
<td>Fall 2010</td>
<td>Currently freelancing; contributes regularly to a major newspaper in Spain and to a monthly supplement about research and technology</td>
<td>Attended Texas A&amp;M as Fulbright grantee and then returned to Spain; since graduation has worked for the History Channel and a science news agency; recent recipient of a grant from the European Investigative Journalism Fund</td>
<td></td>
</tr>
<tr>
<td>George Hale</td>
<td>Spring 2011</td>
<td>Science Outreach Coordinator, Operation IceBridge, NASA Goddard Space Flight Center (Greenbelt, Maryland) since January 2012</td>
<td>Job includes writing news releases and feature articles, managing social media, and coordinating education and public outreach activities</td>
<td></td>
</tr>
<tr>
<td>Alejandra Arreola</td>
<td>Fall 2012</td>
<td>Scientific Editor and Translator, Universidad Autonoma de Nuevo Leon (Mexico)</td>
<td>Also will provide instruction in scientific writing as part of her job; continues to do the Spanish translations for the AuthorAID website</td>
<td></td>
</tr>
<tr>
<td>Katherine Cowart</td>
<td>Spring 2012</td>
<td>Editorial Assistant, Texas A&amp;M University Press</td>
<td>Employed at this job immediately after graduation</td>
<td></td>
</tr>
<tr>
<td>Parvathy Hariharan</td>
<td>Spring 2012</td>
<td>Senior Technical Writer, MD Anderson Cancer Center (Houston, TX)</td>
<td>Employed at this job immediately after graduation</td>
<td></td>
</tr>
</tbody>
</table>

1 Follow-up information was obtained by e-mail questionnaire in February/March 2013. Of the 19 graduates, 18 responded. Follow-up information on the non-respondent (obtained through other sources) appears in square brackets.

2 If the surname has changed since program entry, the current surname is in parentheses.