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 2020
February 10, 2020

The faculty, staff, and students of the MS program in science and technology journalism (STJR) in the College of Veterinary Medicine & Biomedical Sciences (CVM) welcome you to Texas A&M University. We are grateful to you for agreeing to serve as external reviewers of this program. This will be the second review of the STJR MS program since it moved to the CVM in 2006. The current report provides an overview of the program, with emphasis on activities and achievements since 2013.

The review process offers us an opportunity to engage in self-reflection and to benefit from your experience with similar programs. Your review of the STJR MS program will help us advance its mission of preparing students to contribute to society through careers in the communication of science and technology. 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 represents a considerable commitment of your time and effort. I can assure you that we value your review and that we will use it to facilitate the program’s continued progress.

We will be happy to answer any questions you might have and to provide any additional information you might need. I look forward to meeting with you during your visit on March 22–25, 2020. If you have any questions or require additional information, please do not hesitate to contact me.

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## Contents

Charge to the External Review Team ................................................................. 1
Overview: MS Program in Science and Technology Journalism (STJR) ............ 2
Executive Summary ....................................................................................... 4
Introduction to the MS Program in Science and Technology Journalism ........... 6
Academic Programs and Curricula ................................................................. 13
Faculty Profile ............................................................................................... 22
Student Profile .............................................................................................. 24
Concluding Observations ............................................................................. 30
List of Appendixes ....................................................................................... 31
Appendixes ................................................................................................. 32
Charge to the External Review Team: 
MS Program in Science and Technology Journalism

Please examine the program listed above and make recommendations that will help in planning improvements. Your resources are a self-study report prepared by the program, copies of materials from the program’s last review, information you gain through personal interactions while visiting Texas A&M University, copies of strategic plans and goal-setting documents at the department, college, and/or university level, and any additional information requested by you or by the program. Within the broad charge of recommending ways the program can continue to improve are some specific questions that we would like you to address:

- Based on the data/information provided in the self-study report or gathered by the review team, what are the program’s overall strengths and weaknesses?

- How well do the program’s strategic goals align with those of its college and with those of Texas A&M University?

- How would you compare this program with its peers? Specifically, is the curriculum directly related and appropriate to the mission and goals of the institution?

- What improvements (including student learning and faculty development) has the program made since the previous review?

- With only current resources or a modest infusion of new ones, what specific recommendations could improve the program’s performance, marginally or significantly?
Overview:
MS Program in Science and Technology Journalism

The master’s degree program in science and technology journalism (STJR) at Texas A&M University is a broad-based professionally oriented program that prepares students mainly 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.

The program, which began in 1996, originated 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 & Biomedical Sciences. Although college-wide, the program is based administratively in the multidisciplinary Department of Veterinary Integrative Biosciences (VIBS), to which the STJR program’s director, Barbara Gastel, moved when the journalism department closed. Gastel and faculty member Yasha Hartberg teach the core courses in the program. The three other VIBS faculty who teach mainly writing also mentor STJR students.

After entering the program, students choose between a non-thesis (internship) track and a thesis track. Most students pursue the internship track. Recent internship sites have included Fermilab, Johns Hopkins Medicine, the MD Anderson Cancer Center, the Materials Research Society, the Methodist DeBakey Cardiovascular Journal, Microsoft, NASA, the Texas Biomedical Research Institute, and the Texas Water Resources Institute. Recent thesis topics have included science writers’ views and use of online comments, environmental risk communication in the two Cosmos television series, and climate coverage by a major Mexican newspaper.

Each student in the program takes courses in both science communication and science. All STJR students take the courses Issues in Science and Technology Journalism, Reporting Science and Technology, Research Methods in Science and Technology Journalism, and Science Editing. They also take science communication electives and choose from science courses throughout the university. In addition, they can take courses in related realms, such as web design, photography, history of science and technology, and science and technology policy. The program is primarily face-to-face, and most students attend full time. Full-time students typically complete the program in about two years.

Individuals with undergraduate degrees in science or engineering, the liberal arts, and other areas are eligible for the program. Some entering students have previous graduate or professional degrees. The program welcomes both domestic and international students; as in many other graduate programs, though, the proportion of international students has declined in recent years as political and financial conditions have changed. The program is small and highly individualized, with each student choosing courses to meet his or her interests and goals.

Most students in the STJR program have graduate assistantships. Usually these assistantships entail helping with writing-intensive courses for undergraduate biomedical sciences majors. STJR students also are in demand for assistantships at the university writing center, in university communication offices, and elsewhere on campus where graduate assistants with both science background and communication skills are sought. Out-of-state students with assistantships pay tuition at in-state rates.
STJR graduates occupy a variety of positions in Texas and nationwide. Recent examples in Texas include editor-writer at IBM Watson Health, technical writer at National Instruments, communications specialist at the Texas A&M University College of Engineering, managing editor at the Texas A&M University Press, and lecturer at Texas A&M University. Recent examples elsewhere include science writer at the American Physical Society, science writer and communications coordinator at the Carnegie Institution for Science, media relations specialist at the Johns Hopkins University Institute for NanoBioTechnology, writer at Microsoft, and medical writer at the National Institutes of Health. Some graduates go on to obtain PhDs.

The numbers of graduates for the most recent five years for which official statistics are available appear in the table below. During the 2018-2019 academic year, three STJR students graduated. About five to seven students are on track to graduate during the 2019-2020 academic year.

Further information about the STJR program can be accessed at https://vibs.tamu.edu/stjr/.

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Executive Summary

The MS program in science and technology journalism (STJR) at Texas A&M University originated in the Department of Journalism; the first students entered in 1996. In 2006, after closure of the journalism department, the program moved to the College of Veterinary Medicine & Biomedical Sciences (CVM). From the outset, the goal of the program has been mainly to prepare students for careers as writers and editors specializing in the communication of science, technology, and medicine in a variety of professional settings. The current self-study focuses mainly on the years since 2013, when the program underwent its earlier self-study.

The STJR program is aligned in variety of ways with priorities of the CVM and the university. In the CVM strategic plan, it aligns well with the item “Leading the Way in Transformational Learning,” which states that “The CVM strives to educate career-ready graduates prepared to contribute positively to societal needs and to impact local communities, the state of Texas, the nation, and the world.” Likewise, the program is aligned with the Texas A&M University document Vision 2020: Building a Culture of Excellence, especially its Imperative 5, “Build on the tradition of professional excellence.”

The curriculum of the STJR program is intended to produce graduates with strong foundations in both science journalism and science. It also is designed to be relatively flexible, in order to accommodate students with varied backgrounds, interests, and goals. Students choose between a thesis track and a non-thesis track; most choose the latter. All students complete four required STJR courses, take two other courses in STJR or related areas, and take two graduate science courses of their choice. Non-thesis students also take electives in any of a variety of fields and complete an internship. Students in the non-thesis track generally complete the program in 2 years or slightly less; those in the thesis track generally do so in 2 to 3 years.

The program includes various enhancements and high-impact opportunities. Among them are small classes, one-on-one coursework, internships, highly relevant assistanships, conference travel, chances to write for publication, and support in finding employment. Students in the program excel academically, earning high grade point averages. Without exception, they have defended their theses successfully or, in the case of non-thesis students, passed their final comprehensive examinations.

The core faculty consists of two faculty members. One is the program coordinator, whose teaching includes two required STJR courses and two STJR electives, as well as other teaching at the CVM and the College of Medicine, where she has a 25% appointment. Her base salary was transferred from the College of Liberal Arts when the journalism department was discontinued, and it supposed to return to that college when she retires or leaves. The other core faculty member teaches two required STJR courses while principally teaching writing-intensive (W) courses for undergraduate students. This faculty member and the three other faculty members teaching mainly W courses also supervise STJR students as their teaching assistants.

For the period covered by the current review, the number of entrants per academic year has ranged from 1 to 11, with a median and mode of 5 and thus about 10 students in the program at any given time. In the current academic year, 9 students entered in the fall and 2 in the spring;
there currently are 17 students in the program. At present, 10 students are full-time; almost all
the others are completing final requirements or are employed full-time at Texas A&M. Of the 35
individuals entering from Fall 2013 onward, 29 are women; this proportion resembles that in the
previous self-study. Also as before, about two-thirds of the students majored in science as
undergraduates, and about half had bachelor’s degrees from Texas A&M. In keeping with
national trends, the proportion of international students has declined markedly. Of the US
students, at least two during this period were Hispanic (as compared with none in the previous
period), and as before, none were African American. Retention rates in the program have
remained high; of the 35 entering students, only 3 have left the program. Given this attrition of
less than 10%, graduation rates are high.

Essentially all full-time STJR students have graduate assistantships. Typically, the assistantships
entail helping with W courses for undergraduate biomedical sciences majors. This assistance
enables the CVM faculty teaching the main W courses to offer enough sections for the more than
2,800 CVM undergraduates to meet their curricular requirements. The teaching assistants are
integral to the functioning of W courses, and the assistantships provide STJR students with
income, professionally relevant experience, and additional mentorship.

Comparing with that of students in such programs elsewhere, STJR students’ financial situation
tends to be favorable. Student have assistantships, tuition at Texas A&M is relatively modest,
and the cost of living in the College Station area is fairly low. However, the salaries of the
teaching assistants have remained stagnant for more than a decade and do not suffice to cover
expenses. Increased financial support for STJR students is a priority.

Essentially every STJR graduate is employed in field by the time of graduation or within a very
few months thereafter. Those who entered the program in 2013 or later are working as writers
and editors at universities, at government entities, in industry, at a healthcare institution, and at a
professional society. One graduate from this period is pursuing a PhD. Graduates of the program
tend to advance well in their careers.

Although small, the STJR program seems to be fulfilling its mission of producing writers and
editors who serve various publics locally, statewide, nationally, and internationally by
communicating about science and technology and facilitating such communication by others.
Improvements since the previous external review include distributing the core STJR teaching
between two faculty members, making the science editing course a formal part of the core, and
increasing the program’s role as a resource serving the CVM and university as a whole.

Concerns persist, however. The program remains without designated funding, and non-curricular
aspects of the program are supported almost solely by funds the coordinator brings in, for
example through an intensive course. More serious, the faculty is small and overextended, and it
is unclear whether funding will available to support a replacement when the current principal
faculty member, who is in her sixties, is no longer present. If the program is to remain viable, let
alone develop further, these matters require attention.
This self-study report provides an overview of the Texas A&M University MS program in science and technology journalism (STJR), with emphasis on activities and achievements since 2013, when the previous such report was written. The report is structured as specified by the university and so consists mainly of an introduction, a section on academic programs and curricula, a faculty profile, and a student profile. Inclusion of the content required for each section has resulted in occasional redundancy between sections; however, it also allows the sections to be understood individually. We hope you will find this report informative.

**History of the Program**

The MS program in science and technology journalism was approved by the Texas Higher Education Coordinating Board in 1995, and the first students entered in 1996. From the outset, the program has included a thesis track and a non-thesis (internship) track, has required students to take graduate courses in science or technology, and has included electives.
The program initially was located in the Department of Journalism and coordinated by faculty member Barbara Gastel, who was then succeeded in this role by Susanna Priest. However, the journalism department closed in 2004. Priest departed for another university, and Gastel was recruited to the Texas A&M University Department of Veterinary Integrative Biosciences (VIBS), in the College of Veterinary Medicine & Biomedical Sciences (CVM), in part to design writing-intensive courses for undergraduate biomedical sciences majors to take in keeping with a new university directive.

The STJR program was then transferred to the CVM, effective 2006. Gastel coordinated the program during the transition and has continued to coordinate it. The program is CVM-wide rather than being in any one department. However, it is located operationally in the VIBS department.

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 journalism faculty members. In the initial years at the CVM, Gastel taught all the core STJR courses. However, since 2017, faculty member Yasha Hartberg also has taught some of the courses. Since the move to the CVM, the number of entrants per academic year has ranged from 1 to 11, with a median and mode of 5 for the period currently under review. As students generally take about 2 years to complete the program, there typically have been about 10 students in the program at any given time.

Graduates of the STJR program have done well professionally. Positions now held by those graduating in the journalism department era include senior correspondent, Chemical & Engineering News; digital director, Science News; director of public relations for academic affairs, University of Georgia; and executive vice president and San Francisco healthcare lead, Weber Shandwick. Examples for graduates from the early years after the transfer to the CVM include director of marketing and communications, Texas A&M College of Engineering; science writer and editor, International Space Station U.S. National Laboratory; communications officer, EUROfusion; and managing editor, Texas A&M University Press. Graduates from 2014 onward hold positions such as staff science writer, American Physical Society; writer, Microsoft; science writer, Johns Hopkins University; research editor-writer, IBM Watson Health; science reporter, Northeastern University; and communications specialist, Texas Sea Grant. Some graduates both before and after transfer of the program to the CVM have obtained doctorates and are pursuing academic careers; institutions at which they teach include Hope College, Rutgers University, Texas A&M University, and the University of New Mexico. Further information on the program and graduates from 2014 onward appears later in this report.

In spring 2013, the STJR underwent its first academic program review, which focused mainly on the years 2006 through 2012; the current review is thus its second. The self-study report for the 2013 review can be accessed at aa.tamu.edu/AcademicAffairs/media/Media/Resources/APR/CollegeOfVeterinaryMedicineAndBiomedicalScience/STJRSelfStudy_TexasAM_2013_withexecutivesummaryincluded.pdf.

The 2013 external review was quite favorable overall. The executive summary stated that “the program has been very effective in training students for a variety of science communication
professions,” “has identified and achieved appropriate learning outcomes,” “is well-served by its base in the College of Veterinary Medicine,” “[has] established many collaborations across the campus,” and “has achieved its success extremely efficiently.” It also recommended provision of university resources for enhancement of the program, especially in the context of One Health.

The reviewers’ full report, the institutional response, the one-year status report, and the four-year status report are provided as Appendixes A, B, C, and D. The current report builds in part on these items.

Mission and Goals

As stated in the previous self-study report, the mission and goals of the STJR program are as follows:

(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 start, the STJR program has emphasized goal (1). Information later in this report seems to substantiate that the program has remained effective in achieving this goal.

Goal (2) has always has received less emphasis. However, it seems to be achieved to some extent. For example:

- Some graduate students in other fields—such as biomedical sciences, biotechnology, and public health—take one or more STJR courses.
- Every year Barbara Gastel, the professor who coordinates the STJR program, gives a graduate course mainly on writing scientific papers for journals. This course serves principally graduate students in the sciences.
- Gastel and other faculty associated with the program give presentations in courses for undergraduate and graduate science majors. They also speak at meetings of graduate and postdoctoral organizations.
- Through the STJR science editing course, researchers at Texas A&M have manuscripts edited by a class member and then the instructor.
- Faculty in the STJR program often serve as informal consultants to science faculty and others on scientific writing, science-communication issues, and related matters.
- Gastel is a core member of the CVM “specific aims group,” which provides feedback on parts of grant proposals.
- As will be discussed later in this report, the STJR program is closely intertwined with the teaching of writing-intensive courses for undergraduate biomedical sciences majors.

Goal (3) is more abstract and has been pursued less vigorously. However, from 2017 to 2019, Gastel served as a Scholarly Communications Faculty Advocate through the Texas A&M
University Libraries, thus engaging in activities to promote a productive environment for the communication of science. Activities through this appointment and otherwise have included open lectures by visiting and local science communicators, as well as less formal interactions between STJR program members and science faculty.

Administrative Structure

As a small program, the STJR program has a simple administrative structure. However, it receives some administrative support from elsewhere in VIBS and more generally the CVM.

Faculty member Barbara Gastel coordinates the program. Thus, she has the main responsibility for publicizing the program, answering questions from prospective applicants, overseeing admissions, advising students on course selection, helping students find internships, monitoring internships, and helping students find employment after the program. The admissions committee for the program consists of Gastel, Kevin Curley (a VIBS faculty member who teaches writing-intensive courses for biomedical sciences undergraduates and oversees the assignment of STJR students to teaching assistantships in these courses), and Michelle Yeoman (an STJR graduate who is now a VIBS faculty member teaching writing-intensive courses to biomedical sciences undergraduates).

The VIBS administrative staff provides administrative support, for example, regarding room scheduling, guest-speaker parking, and STJR faculty and student travel. The CVM business staff handles personnel matters and financial matters, for example with regard to teaching assistantships. Support also is provided by the CVM Office of the Associate Dean for Research and Graduate Studies. In particular, academic advisors in this office handle the mechanics of admission, and they meet with STJR and other students to ensure that they meet university requirements regarding degree plans, graduation paperwork, and the like. We in the STJR program are grateful for the staff support at the department and college levels.

Facilities and Finances

The STJR program has been based in the VIDI building of the Veterinary & Biomedical Education Complex since this complex opened in 2017. The STJR faculty and other VIBS writing faculty have offices in this building, as do a variety of other CVM faculty. Also, the STJR courses are taught in this building, mainly in seminar rooms. The current building is a great improvement over the decades-old buildings that had housed the program and much else at the CVM. However, whereas STJR students had office space in the former building, they do not yet have such space in the current building. The current building seems to have suitable space available for such a use, and discussions are underway about designating it for STJR students.

The STJR program operates frugally. The main expenses are the salaries of the two faculty members who teach the core courses in the program. However, one of these faculty members is only 75% at the CVM, and the other teaches mainly courses outside the program; further information in this regard appears in the faculty profile section of this report. Salaries for STJR students who serve as teaching assistants in writing-intensive courses come from the CVM or
components thereof. Salaries for STJR students who are graduate assistants elsewhere in the university come from the employing units.

The program does not receive an allotment of funds from the university, college, department, or other unit. Rather, funds brought in by Gastel, for example through an intensive course she teaches each summer, support items such as student travel to conferences. In addition, students can apply through the CVM Advanced Developmental Training Initiative for travel funds to attend activities such as advanced workshops; some STJR students have obtained this funding.

**Date of Last Academic Program Review**

The STJR program underwent its inaugural academic program review in 2013. As noted, the external reviewers’ report, the institutional response, and the one- and four-year status reports are provided as Appendixes A–D.

**Analysis**

*Alignment with goals of the college and university:*

The STJR program is aligned in a variety of ways with the goals of the College of Veterinary Medicine & Biomedical Sciences (CVM) and of the university.

Of the items in the 2017–2022 CVM strategic plan, “Leading the Way” (Appendix E), the STJR program aligns especially with “Leading the Way in Transformational Learning” (page 13). The strategic plan states: “The CVM strives to educate career-ready graduates prepared to contribute positively to societal needs and to impact local communities, the state of Texas, the nation, and the world.” This STJR program does exactly this. Graduates of the STJR program are indeed career-ready and, in fact, often begin their employment in their last semester in the program. They serve societal needs for sound communication about science and medicine by occupying a variety of positions at Texas A&M University, elsewhere in Texas, in other parts of the United States, and internationally.

The STJR program also is aligned with the Texas A&M University document *Vision 2020: Creating a Culture of Excellence.* Of particular relevance is Imperative 5, “Build on the tradition of professional excellence.” The STJR program is a largely professional program, and it has continued to produce excellent science-and-technology communication professionals. Also of considerable relevance is Imperative 9, “Build community and metropolitan connections.” The program has a large and ever-growing network of such connections, including professional communicators at Texas A&M, elsewhere in Texas, and at various institutions elsewhere in the United States and internationally. Members of this network serve as guest speakers in person and through distance media, provide publication opportunities for STJR students, employ STJR students as graduate assistants, host STJR students as interns, hire STJR students after graduation, and otherwise collaborate with the program.

Within the university, an area of especially valuable alignment regards writing-intensive courses. For over a decade, Texas A&M University has required all undergraduate students to take two
writing-intensive (W) courses or the equivalent in their majors. STJR students serve as teaching assistants (TAs) for the main W courses for undergraduate biomedical sciences (BIMS) majors. Doing so allows the CVM to offer enough sections of W courses to serve its more than 2,800 undergraduates while staying within the university’s guideline for the ratio of students to instructional personnel in W courses. The TAs are integral to the functioning of the W courses, and the TAships provide STJR students with financial support, professionally relevant experience, and additional faculty mentorship.

**Appropriateness of the curriculum:**

The curriculum, which the next section of the report describes, seems appropriate overall, given the program’s emphasis on science-and-technology-related writing and editing in a variety of professional contexts. Strengths of the program include the courses and internships in writing and editing and the requirement that each student take two or more graduate courses in science. The program does not include instruction in broadcast journalism, and it does not have courses exclusively in social media or other online media. However, STJR students often take courses in areas such as web design or photography elsewhere in the university, the core STJR courses include increasing amounts of content on social and other online media, future STJR students will be able to take an undergraduate course now being developed on science communication for digital media, and STJR students commonly receive substantial social media experience in assistantships and internships.

**Improvements since previous external review:**

One major improvement since the previous external review has been the addition of Yasha Hartberg to the core teaching faculty for the STJR program. Previously, Barbara Gastel taught all four core courses and the electives in the program. Hartberg, who joined the CVM faculty in 2016 to teach W courses, now teaches two core STJR courses as part of his work. Gastel continues to teach the STJR courses in reporting and in editing, and Hartberg teaches those on issues and on research methods. This allocation benefits the students by providing a better match between courses and faculty strengths and by exposing students to STJR faculty with different backgrounds and styles.

Another improvement has been the establishment of the science editing course as a regular numbered course and formal program requirement. The course had long been given on an ad hoc basis as a directed studies offering, and taking it had become essentially standard for STJR students. Establishment of the science editing course as a regular course has allowed it to be listed by title on students’ transcripts. It also has allowed students to use more of their limited allotment of directed studies credits for other purposes, such as one-on-one tutorials in aspects of science communication of particular interest to them. The editing course also has been moved earlier in the curriculum, as students and faculty have found that it helps STJR students with their writing and in their work as TAs for writing-intensive courses.

Since the previous review, the STJR program has also served increasingly as a science communication resource for students, faculty, and others at the CVM and elsewhere in the university. Activity and visibility in this regard were increased by Gastel’s serving in 2017–2019
as a Scholarly Communications Faculty Advocate through the Texas A&M libraries. STJR faculty commonly give guest presentations in classes, speak to campus groups, and provide consultation on issues in writing and publishing about science. In addition, the program and its students are a source of editorial assistance, in part through the science editing course. Hope remains of establishing a university editorial service associated with the program.
Academic Programs and Curricula

The Program

The MS program in science and technology journalism (STJR) is a broad-based program that prepares students mainly for careers as writers and editors specializing in communication of science, technology, and medicine. It also can serve as background for related careers and as preparation for doctoral study. After the previous academic program review, the program explored the possibility of changing its name to one containing the word communication rather than journalism, in keeping with its scope. However, the decision ultimately was reached to retain the current name, both because of concerns elsewhere on campus about differentiation from units already with communication in their names and because over its more than 20 years the STJR program has achieved substantial name recognition.

The program is not associated with a PhD program of its own. However, students wanting to pursue a PhD with a science communication emphasis at the College of Veterinary Medicine & Biomedical Sciences (CVM) can do so through the biomedical sciences doctoral program. Currently two students are doing so. In addition, the program and the Texas A&M University College of Medicine are working together to make STJR an option in the MD Plus Program, in which medical students earn a master’s degree in a designated field in addition to an MD.

The 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 designed 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 (internship) option. Normally they do so in their second semester. Most students choose the non-thesis option, in which they complete 36 credit hours: 15 credit hours of coursework in STJR or related areas, 6 credit hours of coursework in science, 12 credit hours of electives, and a 3-hour professional internship. The electives can be drawn from courses in STJR, science, and other professionally relevant fields, such as visual communication, health communication, and history of science. In the thesis option, the student completes 18 credit hours of coursework in STJR or related areas, 6 credit hours of coursework in science, and 8 hours of thesis research, for a total of 32 hours. A checklist used to help students plan their curricula is provided as Appendix F.

The normal course load for graduate students at Texas A&M University is 9 credit hours per semester. Students who are enrolled in the summer typically take 6 credit hours in the summer term. Thus, full-time students in the non-thesis track typically complete the program in 2 years or slightly less, depending in part on the length and timing of the internship. Full-time students in the thesis track typically complete the program in 2 to 3 years, depending largely on the duration of their thesis work.

All students in the program take four core STJR courses:

- VIBS 657: Issues in Science and Technology Journalism
- VIBS 660: Reporting Science and Technology
- VIBS 658: Research Methods in Science and Technology Journalism
- VIBS 665: Science Editing

The first two of these courses are offered every spring semester, and the second two are offered every spring semester. Students normally take all four of these courses in their first year.

In addition, the program includes the following STJR electives:

- VIBS 663: Biomedical Reporting
- VIBS 664: Risk and Crisis Reporting

These two courses generally are offered yearly. In addition, students in the non-thesis track enroll in VIBS 684 (Professional Internship) for their internship credit; thesis-track students can take this course as an elective to receive internship experience. Some students take individualized courses (VIBS 685, Directed Studies) to explore aspects of STJR of particular interest to them. Sample syllabi for the STJR courses appear in Appendixes G and H. A sheet stating internship requirements is provided as Appendix I. Appendix J lists students’ internship sites, as well as thesis titles of students in the thesis track.

For their other course work, students choose from many courses that Texas A&M University offers in science, communication, and other relevant fields. Students select their courses in consultation with the STJR program coordinator and others. 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 K lists the non-STJR courses stated on the degree plans of students entering the STJR program from fall 2012 through spring 2019.
As is standard at the university, each student has a graduate advisory committee. The committee consists of a chair, who must be from the CVM; another member from the CVM; and a member outside the CVM. Students choose the members from among the Texas A&M graduate faculty. Initially, the committee approves the student’s degree plan. If the student is in the thesis track, the committee also supervises and evaluates the student’s thesis and defense; if the student is in the non-thesis track, the committee provides questions for and evaluates performance on the student’s final comprehensive examination, which is written and has two 3-hour parts. Members of the graduate committees of students with fall 2012 and later entry are listed in Appendix L.

Relatively few graduate degree programs exist in science and technology journalism or the equivalent. Among the peer institutions that Texas A&M lists in its institutional profile (Georgia Institute of Technology; The Ohio State University; Pennsylvania State University; Purdue University; University of California at Berkeley, Davis, Los Angeles, and San Diego; University of Florida; University of Illinois at Urbana-Champaign; University of Michigan; University of Minnesota; University of North Carolina at Chapel Hill; University of Texas at Austin; and University of Wisconsin–Madison), none seem to offer programs equivalent to that at Texas A&M. At the University of North Carolina at Chapel Hill, however, students can specialize in science and medical journalism within the 2-year on-campus MA program in media and communication. Also, the College of Agricultural and Life Sciences at the University of Wisconsin–Madison offers an MS in life sciences communication; both the thesis track (24 credits) and the professional studies track (30 credits) appear relatively oriented toward theory and research.

The “Being a Science Journalist” section of the MIT Knight Science Journalism Program website (https://ksj.mit.edu/resources/) states:

Many journalism programs at both the undergrad and graduate level offer courses and concentrations in covering science, technology, and health. The most prominent science journalism master’s programs in the U.S. include:

- Boston University’s Graduate Program in Science Journalism
- Columbia Journalism’s MA, Science concentration
- Johns Hopkins’ Graduate Certificate in Science Writing and Master of Arts in Science Writing
- Massachusetts Institute of Technology’s Graduate Program in Science Writing
- New York University’s Science, Health & Environmental Reporting Program
- University of California, Santa Cruz’s Science Communication Program
- Texas A&M University Program in Science And Technology Writing

However, the Boston University program did not offer admission last year and no longer seems to be active. The Columbia University program offering is one of four concentrations within a 1-year master’s program intended for experienced journalists. The Johns Hopkins MA program consists of 9 online courses, taken over 16 to 24 months, plus an onsite residency lasting 7 to 10 days. The MIT graduate program in science writing is a 1-year master’s program containing four courses (including a thesis seminar) per semester and a summer internship. The long-established program at New York University is a 38-credit program in which students take 11 classes, including one elective, over 16 months; the courses focus on journalism per se. The University of
California, Santa Cruz program, which was long a certificate program, started last year to confer a master’s degree. The program lasts 1 academic year; applicants must have a degree in science or engineering and research experience. The programs thus have different profiles and occupy different niches. The Texas A&M STJR program appears relatively distinctive in including science coursework. Also, in some regards, such as the range of content in the science editing course, the program is intermediate between a science journalism program per se and a technical writing program or specialized communication program.

Some universities have graduate certificate programs in science journalism or related realms. The Johns Hopkins certificate in science writing is a part-time online program consisting of 5 courses taken over 9 to 12 months. At George Mason University, students can pursue a science communication concentration within the graduate certificate in professional writing and editing; requirements include the course Science Communication, 2 communication courses in related areas (for example, risk communication, science and the public, or crisis communication), and 2 electives (for example, in science). Non-STJR students at Texas A&M sometimes take multiple STJR courses, and the possibility of establishing a certificate in or encompassing STJR continues to be discussed.

Different programs in science journalism and related areas prepare students best for different professional roles. For example, some excel at preparing students for work in the daily news media or the broadcast media or for freelance science writing. Our program is especially suited to preparing students for roles in the institutional communication of science and technology, for work in specialized media (including trade media), and for editorial employment. Indeed, these areas are ones to which, throughout the history of our program, graduates have tended to gravitate. Fortunately, these areas are among those in which the hiring market is strong.

**Admissions Criteria**

Applicants to the STJR program complete the standard online application for admission to Texas A&M University 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 or resume, provide writing samples, and obtain three recommendations. In keeping with general guidelines at the CVM, applicants normally must have a grade point average of 3.0 or higher and a total GRE score of at least 300 to be considered for admission. Each application is reviewed by a committee consisting of three faculty members. Currently the committee consists of the STJR program coordinator and two members of the writing faculty (including an STJR graduate) who supervise STJR students as teaching assistants.

Potential applicants commonly confer with the STJR coordinator (Gastel), consult current and former STJR students, and visit the program if feasible before deciding whether to apply. Thus, much of the decision-making occurs before the formal application stage. Accordingly, the number of applicants is relatively small but the proportions of applicants admitted and entering are high. According to statistics from Texas A&M Data and Research Services (DARS), the numbers for the years since the previous self-study are as follows:
<table>
<thead>
<tr>
<th>Year</th>
<th>Application Count</th>
<th>Admitted Count</th>
<th>Enrolled Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>8</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>2015</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2016</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>2017</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2018</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2019</td>
<td>10</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

**Number of Degrees Awarded per Year**

As noted in the program overview earlier in the report, the numbers of graduates per academic year has been as follows:

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Number of Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>5</td>
</tr>
<tr>
<td>2014-15</td>
<td>2</td>
</tr>
<tr>
<td>2015-16</td>
<td>5</td>
</tr>
<tr>
<td>2016-17</td>
<td>3</td>
</tr>
<tr>
<td>2017-18</td>
<td>1</td>
</tr>
<tr>
<td>2018-19</td>
<td>3</td>
</tr>
</tbody>
</table>

These numbers closely parallel the numbers of entrants noted in the previous table, with 14 students entering in 2014 through 2018 and, accordingly, 14 students graduating in 2014-15 through 2018-19. Given the relatively high numbers of students entering in 2019, an increase in number of graduates is expected.

**Average Time to Degree**

According to DARS, the average time to degree for the most recent 5 years for which information is available is as follows:

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Years to Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>2.00</td>
</tr>
<tr>
<td>2015-16</td>
<td>2.20</td>
</tr>
<tr>
<td>2016-17</td>
<td>2.67</td>
</tr>
<tr>
<td>2017-18</td>
<td>2.00</td>
</tr>
<tr>
<td>2018-19</td>
<td>1.67</td>
</tr>
</tbody>
</table>

These figures are in keeping with the observation that STJR students in the non-thesis (internship) track typically complete the program in 2 years or slightly less, and those in the thesis track generally do so in 2 to 3 years.
Students in the STJR program benefit from multiple academic enhancements and high-impact opportunities. These include small classes, one-on-one coursework, internships, highly relevant assistantships, conference travel, CVM-wide academic-enhancement resources, chances to write for publication, and support in finding employment.

Core courses and electives in the STJR program are limited to 10 students and often have as few as 5 students. The courses are writing- or editing-intensive and contain considerable discussion, including workshops on the students’ writing. Guest speakers visit the courses both in person and through distance media. Instructors’ provide intensive written feedback on assignments and meet individually with students.

Within the program, students commonly take a directed studies course, which is individualized and generally one-on-one. Most often, the directed studies course provides instruction and experience in advanced aspects of science editing. Other topics have included technical writing and advanced science writing. One recent summer, four STJR students had a directed studies course in which, under the faculty member’s supervision, they each set goals in areas such as reading science writing and increasing their multimedia skills and then met weekly to share their progress and assist each other.
All students in the non-thesis track, and some in the thesis track, do professional internships. During the internship, the student keeps a daily journal and shares the entries weekly with the faculty member coordinating the STJR program. After the internship, the student submits an internship portfolio and gives an internship presentation in an STJR course. Also, an STJR course early in the program includes a writing assignment in which students read and discuss previous students’ internship portfolios. Thus, not only the interns but also later students learn from the internships. Likewise, students in the thesis track receive close supervision, typically meeting weekly with their committee chairs.

STJR students generally have graduate assistantships, almost all of which regard the communication of science and thus enhance the students’ learning in the program. Most commonly, the students are teaching assistants in writing-intensive courses for undergraduate biomedical sciences majors. This assistantship work, which generally entails providing feedback on drafts, reinforces the STJR students’ own learning of writing and editing; also, the faculty whom these students assist are highly committed to mentoring them. Other current or recent sites of assistantships or equivalent employment have included science-related communication offices on campus, the university writing center, and a scientific journal edited by a faculty member.

Travel to conferences and workshops complements students’ learning in the STJR program. Each student receives travel funding to attend one conference per 16 to 18 credit hours. This travel is supported by funds the STJR coordinator brings in through activities such as an intensive course. Most often, students attend the American Association for the Advancement of Science (AAAS) annual conference and the associated National Association of Science Writers (NASW) activities. Students also have attended annual conferences organized by the American Medical Writers Association (AMWA), the Association of Health Care Journalists (AHCJ), and NASW. Some STJR students have received scholarships or fellowships from such organizations to attend their conferences. When feasible, the program additionally covers registration fees for conferences and workshops within driving distance of College Station, and in 2018, in exchange for hosting the AMWA Southwest Chapter conference, the STJR program obtained free registration for students. Participating in the conferences and workshops augments the students’ classroom education, provides valuable chances for networking, and contributes to cohesiveness in the program.

STJR students have access to the academic enhancement resources offered by the CVM Office of the Associate Dean for Research and Graduate Studies. These resources include the Advanced Developmental Training Program, which provides funding for travel to high-impact learning experiences. Through this program, an STJR student recently attended the Duke Center for Documentary Studies audio documentary intensive course; other STJR students also have taken advantage of this program. Other relevant resources in the academic enhancement portfolio include professional development workshops presented annually on more than a dozen topics, including grant writing, crucial evaluation of scientific literature, and public speaking.

Through the STJR program, students have opportunity to write for publication, both in classes and otherwise. STJR students often contribute articles to the CVM magazine, CVM Today. Some also write for the Health Science Center or other entities on campus or pursue freelance opportunities publicized through the program. Those attending conferences commonly write
reports for publication or posting by the organizing entities or for other publications, such as the Council of Science Editors periodical, *Science Editor*.

Students also receive support in finding employment after graduation. The network of STJR graduates, STJR students’ internship success, the reputation of STJR students as competent and hardworking, and the STJR coordinator’s professional network all contribute in this regard. Job announcements are circulated through the STJR email list, and potential employers often ask the program coordinator to suggest candidates. The various enhancements and opportunities in the program contribute to STJR students’ success in obtaining employment.

**Assessment of Student Learning Outcomes**

Given the professional emphasis of the program, the most relevant measure of learning outcomes may be student success in internships and employment. STJR students consistently receive high ratings from their internship supervisors, and if openings exist, their internship sites commonly offer them jobs. Also, internship sites that host our students ask us regularly to have subsequent students apply. STJR students almost always obtain jobs in science communication before or shortly after graduation and then advance in the field. Likewise, STJR graduates seeking to continue their graduate educations beyond the master’s level have consistently gained admission to doctoral programs. For follow-up information on students entering the STJR program in 2013 or later, please see Appendix M.

More academically-related criteria also have been used to evaluate STJR students’ performance. According to Texas A&M Data and Research Services, average end-of-term grade point averages (available only for fall semesters) have been as follows:

<table>
<thead>
<tr>
<th>Headcount</th>
<th>Fall Term</th>
<th>Average GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>2013</td>
<td>3.77</td>
</tr>
<tr>
<td>8</td>
<td>2014</td>
<td>3.88</td>
</tr>
<tr>
<td>10</td>
<td>2015</td>
<td>3.86</td>
</tr>
<tr>
<td>6</td>
<td>2016</td>
<td>3.96</td>
</tr>
<tr>
<td>6</td>
<td>2017</td>
<td>3.99</td>
</tr>
<tr>
<td>10</td>
<td>2018</td>
<td>3.81</td>
</tr>
</tbody>
</table>

Thus, it appears that the students have been succeeding in their courses. Also, about a decade ago, the following targets were established for the program:

- 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.

Percentages in all these regards have consistently reached or approached 100%.
Analysis

Despite limited resources, the STJR program has been offering a curriculum appropriate to its goals and has been relatively successful regarding time to degree, enhancements and opportunities, and outcomes. The number of graduates per year remains relatively low but may be increasing, given recent enrollment numbers. More resources would be needed to accommodate a marked increase.
Faculty Profile

Core Faculty

The program has two core faculty: Barbara Gastel, who coordinates the program and teaches two core courses and two electives, and Yasha Hartberg, who teaches two core courses. Curricula vitae of Gastel and Hartberg appear in Appendix N. Gastel’s faculty appointment is 75% at the CVM and 25% at the College of Medicine, where she teaches in the Department of Humanities in Medicine; her teaching at the CVM consists mainly of two STJR courses per semester and a summer course in research writing. Hartberg teaches principally writing-intensive courses for undergraduate students, plus one STJR course in the fall and one in the spring. Currently the STJR program has 17 students, for a ratio of 8.5 students per core faculty member.

Faculty Other Than Core

The writing faculty at the CVM consists of Gastel, Hartberg, and three other faculty who teach mainly or solely writing-intensive courses. These three faculty, whose curricula vitae appear in Appendix O, are Kevin Curley, Micah Waltz, and Michelle Yeoman. Although the three do not currently teach STJR courses, they and Hartberg supervise STJR students as teaching assistants and thus provide mentorship for them. Gastel, Hartberg, and Curley all are on the graduate faculty and thus can serve on STJR students’ committees. Yeoman, an STJR graduate who is pursuing a PhD in anthropology while serving as a lecturer, would be well suited to teach STJR courses and serve on the graduate faculty once she completes her doctorate.

Faculty Diversity

Yeoman is half Thai, and the remaining faculty members are white. Faculty diversity does exist regarding regional origins in the United States, undergraduate and graduate institutions, age, religious background, and some other characteristics. The STJR faculty is highly committed to diversity, as exemplified by its high representation in Allies (a Texas A&M group “who have committed to providing a safe space for GLBT individuals”), and it includes individuals with substantial international experience.
Analysis

The STJR faculty is committed to the program, receives strong teaching evaluations, and seems to have fine rapport with students. However, it is highly overextended. Also, Gastel is approximately the conventional retirement age, and although she hopes to keep teaching indefinitely, she cannot do so forever. For the program to be sustainable, to say nothing of growing, resources for faculty salaries are needed. This need is especially pressing because Gastel’s core salary was transferred from the College of Liberal Arts when the journalism department closed and is supposed to return to that college when she retires or otherwise leaves. As indicated in the reports since the previous program review, efforts to help ensure sustainability through collaboration with other colleges at Texas A&M University have not proved productive. Obtaining sufficient committed funding for faculty salaries seems to be of highest priority if the program is to continue long-term.
Student Profile

Enrollment

Given the continued uncertainty about funding for faculty lines for the program, efforts to recruit students have remained relatively low-key. Total enrollment at any given time has tended to run about 8 to 10, which is similar to or slightly greater than that at the time of the previous program review. Information on previous degrees and institutions of students entering in 2013 or later appears in Appendix P.

As noted, currently the program has 17 students, largely reflecting increased numbers of entrants in the past year. This increase may at least in part reflect statistical variation. However, at least two other factors may be at play. One is the suspension of the Boston University science journalism program, which seemed to draw on much the same applicant pool as ours. The other is the recent advent of the Texas A&M Employee Tuition Assistance Program, in which full-time Texas A&M University employees who are enrolled in degree programs can receive tuition support and educational release time.
Of the current 17 STJR students, 10 are full-time. Of the other seven, one was full-time but is now taking her single remaining course, one is a finishing her thesis, and the other five are employed full-time (one as an acquisitions editor at the Texas A&M University Press, one as a communications specialist in the College of Engineering, two as veterinary technicians at the CVM, and one at a biotechnology company). This proportion is higher than usual, perhaps because of the Employee Tuition Assistance Program. Although the part-time students tend to be less deeply engaged in the program than others, their professional experience contributes to the program, and their continued education helps strengthen the staff of the university.

Student Diversity/Demographics

Of the 35 individuals entering the program from Fall 2013 onward:

- In total, 29 were women, and 6 were men. These numbers resemble those in the previous self-study report (23 and 5).
- Whereas in the previous period there were 16 US and 12 international students, in the current period there were only 4 international students. In each of the two periods, one international student was a Fulbright grantee. The decrease in international students seems in keeping with national trends. Of the US students, at least two were Hispanic (as compared with none in the previous period), and none were African American. One Hispanic applicant was accepted but decided to pursue another field.
- Of the US students, about half had bachelor’s degrees from Texas A&M. This proportion resembles that previously.
- Entrants have continued to range from new college graduates in their early twenties to individuals with at least several years of job experience. There seemed to be a somewhat greater predominance of the former than before.
- About two-thirds of entering students majored in science as undergraduates. Majors in English or communication also were common. Entrants commonly brought strong backgrounds in both science and writing. This profile has been largely consistent throughout the history of the program.
- A total of 6 entrants during this period had previous graduate or professional degrees. In contrast, 12 during the previous period did so.

Thus, in comparison with the previous period, the group had slightly more Hispanic students but fewer students with previous postbaccalaureate degrees and fewer international students. In ways, the greater uniformity of the students—who are largely white US female recent college graduates with degrees in science or English—makes instruction easier. However, the more limited diversity decreases the richness of the educational experience. It is hoped that political and economic conditions in various countries will again become more conducive to international students’ pursuing graduate degrees in the United States. Along with other components of the university, we will continue trying to increase diversity in other regards.
Retention Rates

Retention rates in the program remain high. Of the 35 students entering the program in Fall 2013 or later, all but three have graduated or remain in the program. Of those three, one was dismissed, one decided to pursue another field, and one left for a doctoral program.

Number of Degrees Per Year

As noted earlier in the report, the numbers of graduates per academic year has been as follows:

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Number of Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>5</td>
</tr>
<tr>
<td>2014-15</td>
<td>2</td>
</tr>
<tr>
<td>2015-16</td>
<td>5</td>
</tr>
<tr>
<td>2016-17</td>
<td>3</td>
</tr>
<tr>
<td>2017-18</td>
<td>1</td>
</tr>
<tr>
<td>2018-19</td>
<td>3</td>
</tr>
</tbody>
</table>

Given the relatively high numbers of students entering in 2019, an increase in number of graduates is expected.

Graduation Rates

In keeping with the retention rates, graduation rates have been high. According to the most recent information from Data and Research Services, 100% of the STJR students in the 2013, 2014, and 2015 cohorts have graduated. Except for the three students who left the program (all of whom did so in 2015 or 2016), all but one student who entered the program during Fall 2013 through Fall 2017 have now received their degrees; the exception is a part-time student who entered in Fall 2015 and is now completing her thesis.

Average Time to Degree (Most Recent 5 Years)

As previously noted, the average time to degree for the most recent 5 years for which information is available is as follows:

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Years to Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>2.00</td>
</tr>
<tr>
<td>2015-16</td>
<td>2.20</td>
</tr>
<tr>
<td>2016-17</td>
<td>2.67</td>
</tr>
<tr>
<td>2017-18</td>
<td>2.00</td>
</tr>
<tr>
<td>2018-19</td>
<td>1.67</td>
</tr>
</tbody>
</table>
Percent of Full-Time Students with Institutional Financial Support

Essentially all full-time students in the STJR program receive financial support in the form of assistantships. The rare exceptions include an STJR student who is a veteran and thus whose educational expenses are being covered by the government. Most commonly, the assistantships are teaching assistantships that are based at the CVM and entail helping with writing-intensive courses for undergraduate biomedical sciences majors. Some STJR students have assistantships elsewhere, for example in the CVM communications office or at the university writing center. The coordinator of the STJR program works with the STJR students to help ensure that all wanting assistantships receive them. Given their combined backgrounds in science and communication, STJR students tend to be in high demand as graduate assistants. Indeed, the demand tends to exceed supply, and some recent requests from elsewhere on campus to hire graduate assistants from the STJR program have remained unfulfilled.

Average Institutional Financial Support Provided

The pay for CVM teaching assistants with bachelor’s degrees is $16,500 per year; those with previous master’s degrees receive $17,500 per year. Students with assistantships also receive insurance benefits. Out-of-state students with assistantships pay tuition at the in-state (resident) rate.

At present, Texas A&M University routinely covers the tuition of doctoral but not master’s students who have assistantships. When funding that the STJR program coordinator brings into the university through her other activities permits, STJR students who are teaching assistants without other tuition support have part of their tuition covered.

Compared with that of students in such programs elsewhere, STJR students’ financial situation tends to be favorable. Tuition at Texas A&M is relatively low, the cost of living in the College Station area is relatively low, and almost all full-time STJR students have assistantships. However, as indicated by the tables that follow, students nevertheless experience a deficit. The level of payment of our teaching assistants has not increased in the 14 years that the STJR program has been at the CVM. In keeping with discussions now underway as part of the CVM strategic planning process, increased payment of teaching assistants should be a priority.

Estimated Cost of Attendance for Texas A&M Graduate Students

Fall-Spring 2019-2020

<table>
<thead>
<tr>
<th></th>
<th>Resident*</th>
<th>Non-Resident*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition &amp; Fees</td>
<td>$7,624</td>
<td>$16,640</td>
</tr>
<tr>
<td>Loan Fees</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>Housing &amp; Meals</td>
<td>12,650</td>
<td>12,650</td>
</tr>
<tr>
<td>Books &amp; Supplies**</td>
<td>1,000</td>
<td>1,000</td>
</tr>
</tbody>
</table>
### Summer 2019

<table>
<thead>
<tr>
<th></th>
<th>Resident*</th>
<th>Non-Resident*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition &amp; Fees</td>
<td>$1,508</td>
<td>$2,927</td>
</tr>
<tr>
<td>Loan Fees</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Housing &amp; Meals</td>
<td>4,333</td>
<td>4,333</td>
</tr>
<tr>
<td>Books &amp; Supplies**</td>
<td>347</td>
<td>347</td>
</tr>
<tr>
<td>Travel</td>
<td>721</td>
<td>1,153</td>
</tr>
<tr>
<td>Personal Expenses</td>
<td>1,619</td>
<td>1,619</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$8,608</td>
<td>$10,459</td>
</tr>
</tbody>
</table>

*Amounts are based on 3 credit hours per semester at Texas A&M University, College Station.
**Includes electronic-books (e-books), access to third-party online homework platforms and other resources.

Source: [https://financialaid.tamu.edu/Graduate/Cost-of-Attendance#0-CollegeStationGraduateStudents](https://financialaid.tamu.edu/Graduate/Cost-of-Attendance#0-CollegeStationGraduateStudents)

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**Student Publications/Presentations (Most Recent 5 Years)**

Given the applied emphasis of the program, STJR students rarely have scholarly publications while enrolled. However, during the period covered by the current self-study, two STJR students who graduated in previous period published journal articles based on their thesis research. These articles are as follows:


Likewise, current and recent theses may well yield journal articles in the coming years.

During the STJR program, students publish journalistic work through courses, in assistantships and internships, on a freelance basis, and otherwise. Locally, their writing is a mainstay of the CVM magazine *CVM Today*. It also often appears in publications of entities such as the Texas A&M University Health Science Center, the Texas Water Resources Institute, and Texas Sea Grant. Much student work also has appeared in publications of professional societies and in communications from medical institutions. Thus, students tend to graduate with substantial portfolios.
**Employment Profile**

Essentially every STJR graduate is employed within the field by the time of graduation or within a very few months thereafter. Indeed, as noted, STJR students often begin employment while completing their final coursework. Among the rare exceptions are the students embarking directly on doctoral study. Follow-up information on students entering the program in Fall 2013 or later appears in Appendix M. The continued high demand for graduates of the STJR program has been heartening.

**Analysis**

Since the previous self-study, the demographics of the STJR program have changed somewhat, at least partly in keeping with national trends. Ethnic diversity among the US students has increased slightly, and the proportions of international students and students with previous advanced degrees have decreased. Although the cohorts in the program remain academically strong, greater diversity would enrich the program.

The program continues to do well regarding retention, time to degree, and placement upon graduation. The program remains small, though currently it is the largest it has been since moving to the CVM in 2006. As individualized attention is integral to the program, the number of students probably should not increase substantially unless the number of faculty devoted to the program increases.

In keeping with the land grant remit, the mission statement of Texas A&M University begins, “Texas A&M University is dedicated to the discovery, development, communication, and application of knowledge in a wide range of academic and professional fields.” (emphasis added) It also states, “[Texas A&M University] prepares students to assume roles in leadership, responsibility and service to society.” By producing graduates with the knowledge, skill, and integrity to pursue exemplary careers in the communication of science and technology, the STJR program helps fulfill this mission. Its graduates serve various publics locally, statewide, nationally, and internationally by communicating about science and technology and facilitating such communication by others. We look forward to the thoughts of readers of this report on how the program can best continue contributing to this mission.
Concluding Observations

The MS program in science and technology journalism provides students with individualized education combining depth of experience and breadth of disciplines, and it produces graduates who readily obtain employment in the communication of science and technology and then advance in their careers. To remain viable, however, the program needs designated faculty lines and funding. We welcome reviewers’ and others’ feedback regarding our program and look forward to their input regarding future directions.
Appendixes

Appendix A: External Peer Review Report, STJR Program, 2013
Appendix B: Institutional Response to Peer Review Report
Appendix C: One-Year Report After Academic Program Review
Appendix D: Four-Year Report After Academic Program Review
Appendix E: College of Veterinary Medicine & Biomedical Sciences Strategic Plan
Appendix F: Course Checklist: MS Program in Science and Technology Journalism
Appendix G: Syllabi: Core Courses in Science and Technology Journalism
Appendix H: Syllabi: Electives in Science and Technology Journalism
Appendix I: Internship Requirements
Appendix J: Thesis Titles and Internship Sites
Appendix K: Non-STJR Courses in STJR Degree Plans
Appendix L: Graduate Committees of STJR Students, Fall 2012 and Later Entry
Appendix M: Follow-Up: STJR Students, 2013 and Later Entry
Appendix N: Curricula Vitae: Core STJR Faculty
Appendix O: Curricula Vitae: Other STJR Faculty
Appendix P: Previous Degrees: STJR Students, 2013 and Later Entry
Appendix Q: Institutional Profile
Appendix A: 

External Peer Review Report, STJR Program, 2013
EXECUTIVE SUMMARY

The external review of the Science and Technology Journalism Program (STJR), which is based in the College of Veterinary Medicine, judged that the program has been very effective in training students for a variety of science communication professions. As demonstrated in its self-study, the STJR program has identified and achieved appropriate learning outcomes. It is well-served by its base in the College of Veterinary Medicine, and has also established many collaborations across the campus. The STJR program has achieved its success extremely efficiently, operating essentially on the back of a single faculty member, Dr. Barbara Gastel. The review committee recommends that Texas A&M University provide appropriate resources in the near future to plan for an enhancement of the program that would focus on Communication of Science and Health in the context of Texas A&M’s commitment to One Health as a campus-wide priority based in the College of Veterinary Medicine.

CHARGE

The review team was charged with making recommendations that Texas A&M University could use to inform continuous quality improvement for the Science and Technology Journalism (STJR) program. Within the broad charge, we were asked to consider the following specific questions and issues:

1. Keeping in mind the resource context within which the STJR Program operates (both human and fiscal) and the absolute level of support the program receives from the University, comment on the overall efficiency and effectiveness of the program’s use of these human and fiscal resources in pursuit of its mission.
2. Examine the assessment of the STJR Program’s learning outcomes:
   a. Has the program identified specific learning outcomes for its educational programs?
   b. How appropriate are these learning outcomes for the program?
   c. Do the curriculum and instruction afford students the 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 program successful in achieving its learning outcomes?
   f. Does the learning outcome assessment process inform continuous quality improvement?

3. Identify strengths, weaknesses, opportunities, and threats related to the current and future quality of the STJR program.

4. Comment on the scope, efficacy, and desirability of current and potential collaborations of this program with other departments, programs, and groups, both on campus and off.

5. Provide the team’s judgment on the national ranking of the STJR program, as a percentile rank.

6. Address the program’s contributions to two of Texas A&M University’s guiding strategic initiatives: *Vision 2020: Creating a Culture of Excellence* and *Action 2015*.

**PROCESS**

The review team received the STJR program’s self-report several weeks before the campus visit, and the team members discussed the report before arriving on campus. The team spent just over two days (8-10 April 2013) interacting with program members, students, and colleagues from related programs and departments, as well as holding several meetings with administrators from the College of Veterinary Medicine (CVM) and the University. As several of the potential opportunities for the program emerged early in the visit, they were discussed with various groups while we were on campus.

As is standard practice, we shared our ideas and a draft report with the STJR program during our campus visit.
OVERVIEW

The team judged that the STJR Program’s self-study was complete and accurate, presenting a clear portrayal of the program. Our discussions with students, faculty, and staff reinforced the descriptions in the report, and we found no evidence of lacunae or unstated concerns.

Our key finding is that the STJR “program” is now essentially the work of one person, Dr. Barbara Gastel. Historically, the program began in the 1990s in the Journalism Department in the College of Liberal Arts with several contributing faculty. On the closing of that department in the mid-2000s, many of the major contributors to the program left the university. The Department of Biomedical Sciences in CVM recruited Dr. Gastel to continue the program and has provided its home since then, with strong support from the department chair.

Dr. Gastel provides the program with its strength: close relationship with students, direct connection to work in the field, nurturing of a variety of career paths.

But that strength is simultaneously the program’s major challenge. In the self-study report’s felicitous phrasing, Dr. Gastel “hopes to keep working indefinitely; [but] she is approaching the usual retirement age range and will not be available forever.” Thus Texas A&M is faced with two paths forward:

• Wait for Dr. Gastel to retire, thank her for running a great program that in its day served the university well, and close the program.

OR

• Invest resources to plan for a sustainable program drawing on the base built by Dr. Gastel and designed to use Texas A&M’s unique combination of strengths to build a program to serve a wide range of students, citizens of Texas, and groups nationwide and worldwide.

The remainder of this report is based on the assumption that the university will follow the second path (otherwise, we and the reader might as well end the report here).

STRENGTHS

• Dr. Barbara Gastel. The single greatest strength of the program is its director, Dr. Gastel. She was universally praised by students, other faculty members, staff, and senior administrators at both the CVM and University level. Among the descriptions we heard were:

  o “Dr. Gastel knows all.”
  o “She provides the perfect blend: smart, socially adept, most helpful person.”
“She models professionalism.”
“She gives the right advice, at the right time.”
“I’ve moved five times in the last two years, so I’ve thrown out a lot of things. I’ve kept the assignments she marked up, so I can go back to them.”
“That woman in fantastic!”

**Student quality.** The self-report contains ample data of high quality, including high grades, successful placement and employment record, and both professional and scholarly publications. In addition, we note that employers of STJR students (as interns or as subsequent employees) were uniformly positive in their praise.

- Instructors of the Biomedical Sciences (BIMS) undergraduate writing-intensive courses who have used STJR students as grading assistants were very pleased with the graders’ work as commenters on student drafts, especially after they had taken the editing course.
- One on-campus employer said that her office had been very pleased with permanent hires who had come from the STJR program; after later hiring someone who had *not* come from the program, the office vowed to hire *only* from the STJR program in the future.
- Another on-campus employer said that STJR master’s students (with only a year or two of writing experience) were substantially better prepared than undergraduates with four years of training in the ALEC (Agricultural Leadership, Education, and Communications) program or the CLA’s Communication program.

**Learning outcomes.** The self-study provides detailed evidence to show that STJR graduates have met learning outcomes for master’s degree students.\(^1\) Moreover, presence of “communicate effectively” as a learning outcome at undergraduate, master’s, and doctoral levels highlights the importance of the program, especially for a university based as much on science and technology research as Texas A&M; the STJR program is uniquely positioned to help achieve that objective.

**Practical focus.** The program’s focus on the “nuts and bolts” of science and technology communication is a clear strength. People who have employed STJR students as interns or as employees after graduation frequently commented on how well they’d been prepared, both as writers and especially as editors.

**International students.** Several students who came from other countries commented on the value of the STJR program for their own English writing, both as science

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\(^1\) We note an inconsistency in formal statements of the Learning Objectives for master’s students. An excerpt provided the Provost’s Office and dated as approved by the President in January 2010 contains seven objectives; a list from p. 12 of the September 2009 Academic Master Plan includes two additional objectives, related to social, cultural, and global competence, and to the ability to engage in lifelong learning.
communicators and as a critical skill they carried into PhD programs in the sciences (for those who continued on that track).

- **Location in the CVM.** The culture of support for outreach and extension activities in the CVM provides a strong home for the program, as does the general commitment to extension present across Texas A&M.

- **Linkages across campus.** The program has developed strong ties with a wide range of programs across campus, including the Writing Center, the News Office, the University Press, various science departments (both in CVM and in other colleges such as College of Science and College of Geosciences), and elsewhere. These linkages provide internship and employment opportunities, coursework opportunities, as well as providing guest speakers and additional perspectives for the students to supplement what they receive from Dr. Gastel.

- **Linkages off campus.** The program has strong ties with professional organizations around the world, as well as with a variety of institutions that regularly employ STJR interns and graduates. These include an award-winning local chapter of the International Association of Business Communicators, the American Medical Writers Association, the Council of Science Editors, and AAAS, the M.D. Anderson Cancer Center, and NASA.

**CHALLENGES**

- **Ability of students to take courses across campus**

  Although (as noted above) Gastel has strong connections with faculty and programs in many places across campus, the formal institutional links with Texas A&M’s other communication curriculum programs could be strengthened. Students in STJR frequently take a media writing course and a few others in CLA/Communication. However, they have not taken courses in COALS/ALEC – in part because they have been denied access to those courses. Many of the opportunities we see for a science & technology communication program involve courses and capabilities present in ALEC. Students also expressed some concern about access to writing courses in the English Department. We recognize the longtime divides (both institutionally and programmatically) between various approaches to communication and writing, but Texas A&M must make efforts to overcome these divides. Many of the opportunities described elsewhere will require students to cross departmental and college boundaries with ease; that challenge must be addressed.

- **Concentration/fragmentation of student experience**

  Students expressed strong confidence, support, and gratitude for Gastel’s leadership and teaching; yet they were conscious of the need for other perspectives on their writing. In
addition, for students in the thesis track, identifying additional committee members was often difficult because of the limited number of faculty to whom they are exposed.

- **No courses on documentary producing, electronic media, new media, social media**

  In modern communication environments, practitioners need skills in a wide range of media. Currently, the STJR program focuses on print media. Without learning opportunities in visual and audio media, as well as in new media and social media, students will not be well-prepared for 21st century communication positions.

- **Funding**

  The program is running on vapors. Gastel’s initial base 9-month salary (excluding subsequent raises) came from CLA after the dissolution of the Journalism Department, and the line with the same base salary is currently scheduled to return to CLA when she retires. About 25% of her salary comes from Health Sciences, where she delivers more than 25% of a teaching load, contributing to a range of medical humanities courses, coordinating a series of electives, and helping individual students edit their personal statements as they apply for residencies. Essentially all remaining costs of the program (covering student assistantships, student travel, incidentals, etc.), comes from salary recovery associated with Gastel’s work for AuthorAID (a global network that provides support, mentoring, resources, and training for researchers in developing countries to help them publish their work) and a summer institute for scientists on how to communicate their work better.

- **Research focus**

  At present, the STJR program does not produce communication or journalism research. Texas A&M’s commitment to professional education suggests that research is not a necessary component of a successful university program, and several administrators told us they agreed with that assessment. On the other hand, we note that research is often a source of ideas, resources, and status on the campuses of research-intensive universities. CVM is currently experimenting with having one student pursue research on the type of science communication recommended elsewhere in this report. That research would feed directly into the kind of curriculum that might be developed. We suggest that envisioning future faculty appointments that might include a research component would be valuable for long-term program growth.

- **Faculty interaction**

  The presence of the writing-intensive instructors and the STJR director in the same hallway allows them to interact. But as a group, they have little interaction with faculty across CVM. Perhaps the new building will address this issue. We raise it because of the importance of integrating communication issues across the faculty and curriculum,
especially for development of some of the possibilities we suggest elsewhere in this report.

RECOMMENDATIONS

For all its strengths, the STJR program faces several challenges. Today’s journalist must be proficient in a variety of media skills, including television documentary, radio production, multi-media, and social media. STJR does not have those capabilities and cannot develop them while the entire organizational and teaching load rests on one faculty member, Dr. Gastel. Furthermore, in its current iteration as a science journalism program, STJR cannot effectively compete with the nation’s other existing science journalism programs. College Station is not in a major media market and does not have the breadth and depth of scientific work available to students of leading programs in Boston, New York, or the San Francisco Bay Area. To compete with other well-established science journalism programs, Texas A&M would have to spend considerable money buying equipment and hiring faculty.

Instead, we suggest that STJR play to its strengths and those of the university, and re-pur-pose itself as a graduate program in Communication of Science and Health (CSH). This innovative program would provide great value to Texas A&M University, the State of Texas, the country, and the world. Such a program would produce students who, rather than work for media organizations (which few STJR graduates do), would work for science-based institutions such as universities, agricultural extension services, non-profits, or government agencies – which is, in fact, where most STJR students end up. These students would be trained in basic media skills such as writing, editing, and video production, but with a special emphasis in public policy, public health, and communication during a public health crisis. Building on its base in the CVM, the program would also train scientists and practitioners, such as veterinarians, physicians, and public health personnel, as well as first responders, to more effectively communicate with the public in both written and oral forms.

This change would play to the strengths of both the program and Texas A&M – one of the few universities in the nation to have veterinary, medical and public health schools on a single campus – and create a specialty not found anywhere else. It also is the right program for our time. As noted in the University’s One Health initiative, we face unprecedented health challenges due to the interconnections of human, animal and environmental health – threats that are magnified by habitat destruction, shifting populations, climate change, drought and other natural disasters. Animal-borne pathogens are emerging and spreading faster than before, through globalization and rapid air travel. Texas is particularly vulnerable to these threats, as one of the most populous states in the nation, with one of the longest, most porous borders, with major international seaports, and home to a significant proportion of the nation’s beef. In response to those factors, veterinary scientists are expanding their role to encompass that of first responder, detecting and responding to a wide range of public health crises, from animal-borne pathogens to natural disasters such as fires, hurricanes, and tornadoes.
The “public” component of that new role – a key one, in our opinion – would be at the
core of an enhanced program in Communication of Science and Health. Not only would the
program create a cadre of uniquely qualified professionals, but it could further develop the
university’s reputation as an emerging leader in its field. It would also contribute directly to
Texas A&M’s long and proud commitment to outreach. Finally, as an innovative program in the
field of biological security, the newly enhanced program might be in a good position to attract
funding.

While it is beyond the remit of this report to suggest a particular curriculum, we have
attached in an appendix some of the ideas we heard as we raised this idea with faculty, students,
staff, and administrators during our visit.

Building on existing resources:

Developing the program in CSH would build on existing programs and collaborations,
both at Texas A&M and elsewhere. We recognize that new resources will be hard to find; rather,
our suggestion emerges from the synergies we saw among many existing activities. Some
examples:

One Health: This program would fit well in the University’s One Health initiative, which
takes the big view of connections among animal health, human health and the changing global
environment. With 75% of the world’s emerging diseases being zoonotic and the possibility for
disease transmission amplified by air travel, public communication about emerging health threats
is more important than ever. Yet very few places offer training in public outreach during a health
crisis. The CSH program could offer that training and add an important component to the
University’s One Health initiative. In an ideal world, every veterinary, medical, public health,
and public policy student would include CSH coursework in his or her program.

Veterinary Emergency Response Team: During our visit, many people pointed to the
existing and effective link between the STJR staff and alumni and the CVM’s active and
successful Veterinary Emergency Response Team. A key component of any emergency
response involves public communication. This happens on several levels: scientists
communicating with the public; public information officers obtaining constantly evolving
information from first responders and communicating it in context to the media and public; and
first responders communicating directly with affected populations (e.g., explaining to threatened
populations why they need to evacuate, or why they need to avoid infected animals, rather than
simply giving orders that may be ignored).

BIMS: BIMS professors told us that undergraduates treat the current writing requirement
with varying degrees of interest. Adding an element of public health and crisis communication
might appeal to students who might otherwise not see the utility of clear written and spoken
communication.
PEER: Many college students show an interest in science but not a desire to “be” a scientist. These students could receive training that would allow them to contribute to the CVM's PEER outreach program (Partnership for Environmental Education and Rural Health), as well as other STEM outreach programs. The CSH program might offer specific courses in outreach, as well as (in the long term, once new resources have been identified) for careers in science writing for scientific institutions, public health outreach, museum work, etc.

Agricultural Leadership, Education, and Communication and Education: At present, few connections exist between the STJR and the ALEC Department. But current ALEC courses in science communication, visual communication, and information dissemination would be natural components of the enhanced CSH program (and some CSH courses would likely appeal to ALEC students).

Communication Department, College of Liberal Arts: The Communication Department identifies health communication as one of its priorities. While we did not meet with Communication Department faculty or students, our impression from campus employers was that the Communication program does not supply the detailed, hands-on professional development opportunities of the STJR. Collaboration between the enhanced CSH program and the Communication Department would lead to richer opportunities for students in both programs.

Texas Engineering and Agricultural Extension Services: The extension services are increasingly tasked with communicating with the public during terrorism threats or pathogen related outbreaks. As such they could be sources of expertise and collaboration in program development; and professional placement and internships.

We identified a number of other on-campus collaborations similar to those above. Some notes about these collaborations:

- Gastel already works internally to help CVM staff think about communication issues, including advising on writing and publishing of scientific papers; an expanded CSH program could offer more systematic opportunities for such consultations.

- The CVM communication office (Angela Clendenin) already offers media training workshops; these could be incorporated into the enhanced CSH program.

- The CVM Educational Technology Center (ETC), which develops continuing veterinary medical education resources, including public health materials, provides a natural site for practical instruction and employment for CSH students.

- The current funding stream for graders for writing-intensive courses does not allow the graders to have student contact. Adjusting the funding stream would allow the graders to become fully engaged teaching assistants, interacting with students, for example over blogs, by monitoring discussion boards, and in other contexts.
Texas A&M’s English Language Institute (ELI) has drawn on STJR resources to help students from developing countries write their science papers better in English; this program could be expanded.

Many STJR students take courses on climate change in the College of Geosciences, and that College’s communications office has used STJR students as interns; deeper, more systematic collaborations could be developed.

The Bush School of Government and Public Service has offered courses on preparedness and offers a graduate certificate program in Homeland Security; articulation between the programs would enhance the One Health focus we are suggesting.

Graduate certificates: Several people noted that as the CSH program grows, it might offer professional development certificates, either alone or in collaboration with other Texas A&M units or with other Texas-based institutions.

Although the Department of Journalism closed, there is still a Journalism Studies program in the College of Liberal Arts. A more formal collaboration with that program might provide some of the courses in modern media production that should be part of the enhanced CSH program.

The College of Architecture has a Department of Visualization, which would be a possible partner for courses on scientific visualization and the visual aspects of communication of science and health.

Campus television and radio stations. More formal collaborations between the student-run KANM radio station and KAMU public television station – both supported by Texas A&M – would provide additional opportunities for internships and professional training.

The list of potential on-campus collaborations is long, and what is provided here is only what we heard about in our visit. To establish and maintain these collaborations, however, will require additional resources.

Extending collaborations off-campus

The field of Communication of Science and Health, with a focus on training graduate students in the sciences to more fully integrate communication into their work, is rapidly growing. Some outside organizations with which the enhanced CSH program might collaborate include:

- **COMPASS** (http://www.compassonline.org/) This organization teaches scientists how to more effectively communicate with multiple audiences, including both publics and
policymakers. They do this by offering sophisticated media training – not only in the cosmetics of presentation but in substantive analyses of how people perceive scientific information. The CSH program could explore ways to partner with COMPASS, perhaps as a regional training center.

- ELISS: Emerging Leaders in Science and Society, a AAAS-based initiative. ([http://www.aaas.org/cspsp/ellis/index.shtml](http://www.aaas.org/cspsp/ellis/index.shtml)). ELISS is a newly-launched program to mentor graduate and professional students in how to solve complex science-linked social issues with policy components. ELISS participants will develop the ability to communicate with diverse audiences, collaborate as a distributed team, address local issues, and create entrepreneurial opportunities.

- AuthorAID: Continue the existing collaboration with this international organization, which STJR director Dr. Barbara Gastel helped create. AuthorAID is a global network that provides support, mentoring, resources, and training for researchers in developing countries to help them publish their work. According to Gastel, the organization has some material on public communication, which might be expanded in collaboration with an enhanced CSH program.

**Next steps:**

We believe that a program in Communication of Science and Health could be an important enhancement of the current STJR program, building on the program’s current strengths and expanding into areas that will benefit the College of Veterinary Medicine, Texas A&M University, the State of Texas, and the nation. We can imagine the following steps, which are all predicated on funding the director of the enhanced program as a fulltime position:

**Near Term**

- Provide funding (in the form of release time) for Dr. Gastel to develop a planning proposal. (One administrator suggested using funds from the “course fees pool” to enhance veterinary education through development of the richer program envisioned here.)

- Lower barriers to other programs within the University. The CSH program should continue to be open to students from all departments, as those departments should be to CSH students. The program director should seek out and identify other places in the university in which important skills, such as video production and social media, already are being taught.

- Develop CSH as a CVM-based university-wide resource. The graduate program will host a core of full-time students with special focus on emerging health issues, but the program can potentially serve the entire university community, especially those science, technology, and policy departments whose members may need to interact with the public.
It could be particularly fruitful to offer communication courses to students in medical and health sciences.

- Train additional faculty to teach in CSH. Several CVM professors have expressed interest in teaching communication. Doing so would free up Dr. Gastel to develop a proposal for the enhanced program; it would also add more editorial voices, which students seek. (See appendixes for resources to draw on for training these and other potential instructors in the needs of the CSH program.)

- Seek funding from unconventional sources. This will be an unconventional program, and as such may attract funding from unusual sources. Given the biological security emphasis of this program we think it might be productive to seek funding from the Department of Homeland Security, the Pulitzer Center for Crisis Reporting and the Texas Engineering Extension Service; also from private sources, including the biotech and pharmaceutical industries.

**Long-term**

- Develop new certificate programs and degree concentrations. In time it might be possible to establish a Certificate in Communication of Science and Health, available to graduate students in other departments or to mid-career professionals. An articulated undergraduate/graduate program in Communication of Science and Health could be offered to undergraduates; we heard that it might be relatively straightforward to implement this idea in BIMS, with similar articulations with other departments developing over time.

- Develop a science communication Core Curriculum course for sophomores. This would satisfy an expressed need among undergraduates who love science but are seeking careers outside the traditional paths.

- Explore ways of increasing student and faculty diversity. This might include recruiting graduate students from within BIMS and other campus programs, as well as exploring collaborations with programs such as the University of Houston—Downtown’s Professional Writing bachelor’s degree program.

**ACKNOWLEDGEMENTS**

The reviewers would like to thank the administrators, faculty, staff and students who met with us and generously shared information and insights; and who adjusted gracefully to our travel delays. We’d like to thank Drs. Barbara Gastel and Evelyn Tiffany-Castiglioni for shepherding us through an intense interviewing process and extending warm hospitality. We’d particularly like to thank Dana Parks and Patti Urbina, who made everything run smoothly and helped us navigate this huge and sometimes confusing campus.
Appendix I: Potential elements of an enhanced curriculum:

**Core courses:** In one approach, the enhanced program would include a series of core courses that teach basic skills in science communication, public policy, science and crisis communication. Some of these courses already exist, while others might need to be developed. This core could include:

- **Science editing:** A continuation of the course that Dr. Gastel currently teaches on editing articles for scientific publication, grant proposals and publications for the general public. Numerous faculty members and other people involved in publishing at Texas A&M consider this course a mark of distinction for the university.

- **Science writing for the general public:** A course on the fundamentals of scientific journalism, including finding topics, interpreting journal articles, interviewing, writing and re-writing. Ideally the course would include a multimedia component, such as blogs and tweets, which are increasingly becoming an important avenue to communicate fast-breaking information.

- **Crisis management and crisis communication:** A course about the communication component to fast-response in a public health emergency; this would be a further development of an existing course. We imagine that such a course could include case studies and some practical experience, especially by building on existing collaborations with the Veterinary Emergency Response Team.

- **Video production:** A hands-on course on the basics of videography is now a fundamental component of communication training. The CVM has expertise in this area, though currently it exists only as a service provided by the CVM Educational Technology Center; we envision drawing on its resources to develop the course.

- **Elective: Epidemiology:** Understanding epidemiology and related issues of judgment of scientific data will be critical to communication of emerging health issues, especially in situations such as the emergence of zoonotic diseases. Current STJR students almost all take – and universally praise – the current epidemiology course.

- **Elective: Science and Public Policy:** Development and implementation of science-linked policy is a fundamental component of the integration of science and society. Courses on public health policy or crisis management would be valuable components of the CSH program; collaborations with the Bush School, where such courses have in the past been offered, would expose students both in the sciences and in public policy to contemporary issues.
Appendix II. Program names

The reviewers and the faculty think it is important to re-name the program, in order to emphasize communication. In this report, we have used “Communicating Science and Health” (CSH) for simplicity, but other suggestions arose during our conversations on campus. We list them here as resources for developing the program.

- Public Communication of Science and Health
- Integrative (or Integrated) Communication of Science and Health

Appendix III. Training opportunities for CVM faculty

The following organization offer varying degrees of training for faculty who wish to teach communication:

- The Pulitzer Center on Crisis Reporting, http://pulitzercenter.org/
- The Knight Foundation, http://www.knightfoundation.org/
Appendix B:

Institutional Response to Peer Review Report
July 12, 2013

MEMORANDUM

TO:        Dr. Barbara Gastel
            Professor and Program Chair
            MS Program in Science and Technology Journalism

FROM:      Dr. Karan L. Watson
            Provost and Executive Vice President for Academic Affairs

SUBJECT:   Science & Technology Journalism (STJR) Academic Program Review:
            Institutional Response

The post-review meeting, as outlined in the Academic Program Review Guidelines, was
convened on June 14, 2013. The purpose of the meeting was to discuss and reach consensus on a
plan of action to be taken following the program’s April 2013 external program review and to
document the institutional response. The post-review meeting was attended by the provost’s
administrative team members Drs. Pam Matthews, Kevin Heinz, and Ann Kenimer and Ms. Patti
Urbina; Deans Bhanu Chowdhary and Evelyn Tiffany-Castiglioni; and Professor and Program
Coordinator of the M.S. in Science and Technology Journalism Program, Dr. Barbara Gastel.

Dr. Gastel started by expressing her appreciation for the opportunity to conduct the review and
reflect on the program; she commended the external review team for their insights, perceptions,
and collegiality. Gastel found the review and discussions gave the program confidence to move
forward and noted they are already making some changes in their recruiting and program
planning.

An outline of priorities for the future of the program was provided in the department’s response.
Gastel led a lively conversation about the list and expanded on a number of the recommendations:

- Secure funding for the program coordinator’s position. When the journalism department
closed in 2004, Gastel moved from the College of Liberal Arts to the College of
Veterinary Medicine & Biomedical Sciences (CVM), and her base salary came with her.
A formal agreement is needed to retain this funding long-term in order to ensure financial
support of the program coordinator position.

- Develop a certificate in science communication obtainable by graduate students in other
programs and perhaps science communication professionals. Anticipated 15 SCH or less.
• Explore development of articulation agreements with undergraduate programs. BIMS is a logical program to initiate review.

• Increase diversity in the program. Sources of students could include UH Downtown, which has a professional writing program, and PVAMU. Options to develop a 2+2 or a 4+1 were suggested.

• Address reviewers’ observation that there is too little instruction on electronic communication. The program is known for strengths in writing and editing. Increased instruction in electronic communication might be achieved better through collaborations across campus than by developing considerable new course work in this area.

• Expansion of the size of the program is anticipated. In response to questions regarding the target number to “grow the program,” Gastel stated the quality and sustainability of the program could be maintained if the enrollment was doubled. This would bring the size of the program to that of some of the most prominent programs in the nation. She stressed the solid record of the program in retention and placement.

• Involve more individuals in teaching the STJR writing courses to provide the students with additional perspectives. While the program uses a number of guest speakers, additional faculty who teach writing-intensive (“W”) courses, edit journals, etc., might be able to teach in the program. Potential for cross-listing courses to build partnerships across campus was also viewed as an effective way to expand.

• Designate the science editing course as a core component of the curriculum of the program.

• Explore possibilities to align aspects of the program with the One Health Initiative.

• Further cultivate current and potential synergies with other activities at the CVM and elsewhere at Texas A&M. The School of Rural Public Health (SRPH) wants to offer a bachelor’s degree after the university-HSC merger is complete; opportunities for collaboration in this regard were envisioned.

• Change the program’s name to more accurately reflect the nature of the program. It was agreed that a focus on public communication of science and technology should be reflected. Perhaps a name such as Science and Health Communication or Science, Technology and Health Communication would be suitable.

• Serve increasingly as a science-communication resource for students, faculty, and others throughout the CVM and the university, perhaps in part by having more of the current CVM faculty teach scientific writing. It was noted there is a significant unmet demand for instruction in this realm. The program could provide valuable service to the institution through endeavors such as the following:
  o Teaching more sections of the writing course for graduate students and postdoctoral fellows
  o Establishing mini-semester and winter-semester offerings
- Hosting “science writers in residence”
- Increasing the number of researchers served by the summer intensive course on research writing
- Offering courses in grant writing
- Offering continuing education courses

The program should explore audiences and potential new markets in geosciences and engineering. It also should look into strengthening ties with university science communicators and journal editors across campus.

Overall, the conclusion of the meeting was optimistic for the future and expansion of the program. In accordance with Texas Administrative Code Rule 5.52, no later than August 1, 2013, institutions shall submit reports electronically of the outcomes of each review to the Workforce, Academic Affairs and Research Division [of the Texas Higher Education Coordinating Board]. This report must include a summary of the programmatic self-study and the full text of the external reviewers’ evaluation as well as the institutional response to the external evaluation.

Additionally, and as described in Texas A&M’s Academic Program Review Guidelines, approximately one year after the review, the department is responsible for providing a summary of efforts made to address review team recommendations as reiterated in the items discussed during the post-review meeting. The deadline for the Science and Journalism Program’s one-year status report will be June 2014. A four-year status report will be required in 2017.

cc: Dr. B. Chowdhary, Associate Dean, College of Veterinary Medicine & Biomedical Sciences  
Dr. E. Tiffany-Castiglioni, Associate Dean, College of Veterinary Medicine & Biomedical Sciences  
Ms. Patti Urbina, Program Coordinator, Academic Program Reviews
Appendix C:

One-Year Report After Academic Program Review
June 16, 2014

MEMORANDUM

TO: Dr. Karan L. Watson
   Provost and Vice President for Academic Affairs

THROUGH: Dr. Karen L. Butler-Purry
   Associate Provost for Graduate Studies

THROUGH: Dr. Eleanor M. Green
   Dean, College of Veterinary Medicine & Biomedical Sciences

THROUGH: Dr. Evelyn Tiffany-Castiglioni
   Head, Department of Veterinary Integrative Biosciences

FROM: Dr. Barbara Gastel
   Professor, Department of Veterinary Integrative Biosciences

SUBJECT: MS Program in Science and Technology Journalism Academic Program Review (APR): One-Year Status Report

The following is the one-year status report after the academic program review (APR) of the MS program in science and technology journalism (STJR), which is based at the College of Veterinary Medicine & Biomedical Sciences (CVM). As will be described, work is under way to pursue the recommendations, and progress has been achieved. Thus far, however, efforts have not been successful to fulfill the first recommendation: arranging for the faculty line of the coordinator to remain long-term at the CVM. Fulfillment of this recommendation remains the top priority, as it is fundamental to the sustainability of the program. Without fulfillment of this recommendation, work to achieve the others is likely to be largely in vain.

Background

During the 2012–2013 academic year, the STJR program underwent external review as part of the university’s regularly occurring process of academic program review. As part of the review, the program prepared an extensive self-study report. A two-member review team, consisting of Dr. Bruce Lewenstein (Cornell University) and Professor Douglas Starr (Boston University), then visited the program on April 8–10, 2013; the team submitted its final report in early May. The report was quite favorable overall, noting that “the program has been very effective in training students for a variety of science communication professions”; however, it also included suggestions to strengthen and further develop the program and help ensure its sustainability. The program then prepared a response, which was discussed on June 14, 2013, at the post-review meeting with members of the provost’s administrative team. The provost then sent on July 12, 2013, an institutional response...
memo summarizing the post-review meeting. The current one-year status report begins addresses the items listed in the institutional response memo and provides some closing comments.

**Updates on Items in the Institutional Response Memo**

The institutional response memo consisted largely of a bulleted summary of items discussed at the post-review meeting. These items, in turn, largely reflected a list, appearing near the end of the program response, of priorities for the next several years. The status of each item in the institutional response memo will now be addressed in turn.

- "Secure funding for the program coordinator’s position. When the journalism department closed in 2004, Gastel moved from the College of Liberal Arts to the College of Veterinary Medicine & Biomedical Sciences (CVM), and her base salary came with her. A formal agreement is needed to retain this funding long-term in order to ensure financial support of the program coordinator position."

On June 28, 2013, Dr. Pamela R. Matthews, Vice Provost for Academic Affairs, sent Dr. Eleanor M. Green, dean of the CVM, an email message stating the following:

> Since this understanding was reached by former deans of liberal arts and veterinary medicine and was a college-to-college level agreement, you should initiate discussion with José Bermúdez if you wish to pursue this issue. The provost’s office does not need to be involved, since this is explicitly a college-level arrangement.

Dr. Green contacted Dr. Bermúdez, who stated that the agreement was that the salary would return to the College of Liberal Arts and indicated that potential does not exist for negotiation in this regard.

Dr. Bermúdez has now left the deanship, and we see this juncture as an opportunity to resume discussions. If the program is to be sustainable, it is essential that stable funding be available for the salary of the faculty member who is program coordinator. Although I have no plans to retire, I am now past 60, and good stewardship seems to require that plans for eventual succession be in place.

- "Develop a certificate in science communication obtainable by graduate students in other programs and perhaps science communication professionals. Anticipated 15 SCH or less."

The program remains interested in developing such a certificate. However, viability of such a certificate requires assurance that an STJR program coordinator will be available in the long term. Thus, specific steps to establish such a certificate are expected to ensue only if assurance is received that my base salary will remain at the CVM.

- "Explore development of articulation agreements with undergraduate programs. BIMS is a logical program to initiate review."

The program continues to be interested in this regard. Recently the assistant dean for the BIMS (biomedical sciences) undergraduate program retired. Once his successor is chosen and in place, the time may be opportune to explore establishment of an articulation agreement. Also, the
Texas A&M School of Public Health (SPH) is establishing an undergraduate major; an articulation agreement with this major also seems to be a natural possibility to explore. One main person developing this new major at the SPH is an STJR graduate with a doctorate in public health; he has consulting me about developing writing-intensive courses for the new major, and an entrée seems to exist for discussing an eventual articulation agreement.

- "Increase diversity in the program. Sources of students could include UH Downtown, which has a professional writing program, and PVAMU. Options to develop a 2 + 2 or a 4 + 1 were suggested."

I am pleased to report that the students entering the program in 2014 show considerable diversity. Of the 5 confirmed entrants for the year, 1 is a permanent resident from Mexico, 1 is from Saipan (in the Northern Mariana Islands), 1 is a Fulbright scholar from Chile, and 2 are Texas natives. Active outreach to UH Downtown and PVAMU has not yet occurred and is a priority for this summer and fall. International outreach continues, for example when give workshops and presentations overseas.

- "Address reviewers' observation that there is too little instruction on electronic communication. The program is known for strengths in writing and editing. Increased instruction in electronic communication might be achieved better through collaborations across campus than by developing considerable new course work in the area."

This observation is being addressed. STJR students are being explicitly encouraged to take courses in electronic communication and related areas, and they receive guidance in identifying such courses; of the 5 STJR students taking courses on campus in Spring 2014, 2 took a course in digital photography (ARTS 310), and 1 took the course Multimedia Design and Development (ENDS 374). Also, this spring I met with Dr. Jack Elliot, head of the Department of Agricultural Leadership, Education, and Communications (ALEC), which offers some course work in electronic communication; prospects appear favorable for increasing STJR students' and ALEC students' access to courses in each other's programs. In addition, STJR students doing assistantships and internships are taking considerable advantage of opportunities therein to develop electronic-communication skills.

- "Expansion of the size of the program is anticipated. In response to questions regarding the target number to 'grow the program,' Gastel stated that the quality and sustainability of the program could be maintained if the enrollment was doubled. This would bring the size of the program to that of some of the most prominent programs in the nation. She stressed the solid record of the program in retention and placement."

Retention and placement remain strong, and the number of students confirmed for 2014 entry is somewhat above the average for recent years. I am hesitant, however, to market the program very vigorously unless it is clear that the program coordinator line will remain with the CVM.

- "Involve more individuals in teaching the STJR writing courses to provide the students with additional perspectives. While the program uses a number of guest speakers, additional faculty who teach writing-intensive ('W') courses, edit journals, etc., might be able to teach in the program. Potential for cross-listing courses to build partnerships across campus was also viewed as an effective way to expand."
Cross-listing courses seems like the more promising approach at present, as it would not require additional resources. The cross-listing of one or more courses may be an eventual outcome of the discussions with Dr. Elliot in ALEC. Also, as a university studies major in journalism will begin in Fall 2014, I contacted the director of the Journalism Studies Program this spring about meeting to discuss potential collaboration; he initially expressed enthusiasm about meeting but has not responded to requests to set a time to meet. A hurdle to having more people teach STJR writing courses is the need to pay people for their time or cover the amount of university time devoted to the teaching; as the program does not have designated funds, the funding would need to come from funding that I bring in. Also, some of the public information specialists and others on campus who appear qualified to teach skills courses in science writing do not have graduate faculty status. A solution might be to team teach a course with such an individual, with my being faculty member of record. I would welcome additional ideas.

- “Designate the science editing course as a core component of the curriculum of the program.”

Starting with the students entering the STJR program in Fall 2014, the science editing course will be among the required courses. Over the years, this course has been a 685 (Directed Studies) course, to maximize flexibility in scheduling. Now that it is well established and will be a core component of the STJR curriculum, we will apply to make this course a regular numbered course.

- “Explore possibilities to align aspects of the program with the One Health Initiative.”

Although formal efforts to align aspects of the program with the One Health Initiative have not been undertaken, we have increasingly pursued commonalities. For example, in Spring 2014 an STJR did a directed-studies elective consisting mainly of a research project on coverage of zoonotic diseases by US newspapers. Also, the upcoming issue of the CVM magazine, *CVM Today*, includes articles that STJR students have written relating to One Health. We remain alert for opportunities for additional alignment.

- “Further cultivate current and potential synergies with other activities at the CVM and elsewhere at Texas A&M. The School of Rural Public Health (SRPH) wants to offer a bachelor’s degree after the university-HSC merger is complete; opportunities for collaboration in this regard were envisioned.”

As noted in discussing the potential for articulation agreements, plans for the bachelor's degree in public health are moving forward, and potential synergies are starting to be cultivated. For instance, the STJR program is being viewed as a source of graduate assistants for writing-intensive courses for public health majors; if the number of STJR students will indeed increase, the additional assistantships will be especially welcome. Synergies with the CVM's public relations office and with the Texas A&M University Press also have been increasing, and during the past year I gave several communication-related presentations to the graduate student and postdoctoral associations at the CVM and to other groups on campus. Also, when the Department of Educational Psychology sought a research writing course for this summer, we developed a course stacked with VIBS 655 (Methods of Specialized Journalism); an STJR graduate who is a lecturer is serving as co-instructor. Current and potential synergies will continue to be cultivated.
"Serve increasingly as a science-communication resource for students, faculty, and others throughout the CVM and the university, perhaps by having more of the current CVM faculty teach scientific writing. It was noted there is a significant unmet demand for instruction in this realm. The program could provide valuable service to the institution through endeavors such as the following:

- Teaching more sections of the writing course for graduate students and postdoctoral fellows
- Establishing mini-mester and winter-mester offerings
- Hosting 'science writers in residence'
- Increasing the number of researchers served by the summer intensive course on research writing
- Offering courses in grant writing
- Offering continuing education courses

The program should explore audiences and potential new markets in geosciences and engineering. It also should look into strengthening ties with university science communicators and journal editors across campus."

To the extent that resources permit, our program still wishes to serve increasingly as such a resource. We have discussed with some CVM faculty the possibility of their teaching scientific writing; one now is a guest speaker in a scientific-writing course, but none have shown much interest in teaching entire courses on the subject. Ties have been strengthened with some university science communicators; thoughts would be welcome on ways to more systematically strengthen ties with science communicators and journal editors across campus. Endeavors such as those in the bulleted list certainly are appealing. Although some could eventually become self-supporting, all will require at least initial investments of time and, in some cases, other resources. Currently the program has one faculty member (the program coordinator), part of whose time goes to an externally funded project, which generates funds helping to support the program; it has no staff and no dedicated budget. Ideas for pursuing the ideally envisioned endeavors despite these constraints would be appreciated.

Closing Comments

The year since the APR has been a good one for the STJR program. The self-study report that was compiled for the APR has been a fine resource for informing prospective graduate students about the program, and recommendations from the APR have provided impetus for taking next steps regarding the program. One year after the post-review meeting, the most pressing need is still to ensure that the program coordinator's budget line remains long-term at the CVM. Otherwise, the program seems unlikely to be sustainable beyond the current coordinator's time as a faculty member. Pending resolution of this issue, efforts to pursue the recommendations for developing further the STJR program may be questionable uses of time. I hope that the CVM will soon be able to arrange to retain my budget line long-term. Meanwhile, I will continue working to fulfill the recommendations.
Appendix D:

Four-Year Report After Academic Program Review
COLLEGE OF VETERINARY MEDICINE & BIOMEDICAL SCIENCES
Department of Veterinary Integrative Biosciences

May 5, 2017

MEMORANDUM

TO: Dr. Karan L. Watson
    Provost and Executive Vice President

THROUGH: Dr. Michael T. Stephenson
    Associate Provost for Academic Affairs

THROUGH: Ms. Bettyann C. Zito
    APR Coordinator

THROUGH: Dr. Eleanor M. Green
    Dean, College of Veterinary Medicine & Biomedical Sciences

THROUGH: Dr. Jane Welsh
    Interim Head, Department of Veterinary Integrative Biosciences

FROM: Dr. Barbara Gastel

SUBJECT: MS Program in Science and Technology Journalism Academic Program Review:
Four-Year Status Report

This document is the four-year status report after the academic program review (APR) of the MS program in
science and technology journalism (STJR), which is based at the College of Veterinary Medicine & Biomedical
Sciences (CVM). It follows up on the one-year status report, dated June 16, 2014.

The opening paragraph of the one-year status report contained the following statement:

As will be described, work is under way to pursue the recommendations, and progress has been
achieved. Thus far, however, efforts have not been successful to fulfill the first recommendation:
arranging for the faculty line of the coordinator to remain long-term at the CVM. Fulfillment of this
recommendation remains the top priority, as it is fundamental to the sustainability of the program.
Without fulfillment of this recommendation, work to achieve the others is likely to be largely in vain.

As described later in this report, our efforts to ensure long-term retention of this faculty line have not succeeded,
and discussions of making the program collaborative with the College of Liberal Arts did not prove productive.
Thus, we have been largely in a holding pattern. Although there has been some progress in fulfilling the other
recommendations, efforts in some regards did not seem appropriate for a program with an uncertain future. We
recently started to explore with the School of Public Health the potential for continuing the program on a collaborative basis. As will be described later in this report, discussion thus far appears promising. We are hopeful that such collaboration can lead to a stable base for the program.

Background

During the 2012–2013 academic year, the STJR program underwent external review as part of the university’s regularly occurring process of academic program review. As part of the review, the program prepared an extensive self-study report. A two-member review team, consisting of Dr. Bruce Lewenstein (Cornell University) and Professor Douglas Starr (Boston University), then visited the program on April 8–10, 2013; the team submitted its final report. The report was quite favorable overall, noting that “the program has been very effective in training students for a variety of science communication professions”; however, it also included suggestions to strengthen and further develop the program and help ensure its sustainability. The program then prepared a response, which was discussed at the post-review meeting with members of the provost’s administrative team, and the provost sent an institutional response memo summarizing the post-review meeting. The one-year status report addressed the items listed in the institutional response memo and provided some closing comments. The current report summarizes subsequent progress on these items and discusses potential future steps.

Updates on Items in the Institutional Response Memo

The institutional response memo consisted largely of a bulleted summary of items discussed at the post-review meeting. These items, in turn, largely reflected a list, appearing near the end of the program response, of priorities for the next several years. The status of each item in the institutional response memo will now be addressed in turn.

- “Secure funding for the program coordinator’s position. When the journalism department closed in 2004, Gastel moved from the College of Liberal Arts to the College of Veterinary Medicine & Biomedical Sciences (CVM), and her base salary came with her. A formal agreement is needed to retain this funding long-term in order to ensure financial support of the program coordinator position.”

On June 28, 2013, Dr. Pamela R. Matthews, then Vice Provost for Academic Affairs, sent Dr. Eleanor M. Green, dean of the CVM, an email message stating the following:

Since this understanding was reached by former deans of liberal arts and veterinary medicine and was a college-to-college level agreement, you should initiate discussion with José Bermúdez if you wish to pursue this issue. The provost’s office does not need to be involved, since this is explicitly a college-level arrangement.

Dr. Green contacted Dr. Bermúdez, who stated that the agreement was that the salary would return to the College of Liberal Arts and indicated that potential did not exist for negotiation in this regard.

In 2015, Dr. Matthews became dean of liberal arts. Dr. Green contacted her to reopen discussion. At the request of Dr. Matthews, Dr. Leroy Dorsey, associate dean, then convened a task force to examine how the College of Liberal Arts might become more involved with the STJR degree. The task force, with members from both colleges, met in early 2016; discussion appeared productive. Ultimately, however, Dr. Matthews decided not to continue to explore this option. In April 2016 she wrote to Dr. Green:

Everyone agrees that it is a strong program and that Barbara Gastel is to be commended for her commitment to its excellence. I know it will be disappointing, but we have
concluded not to continue our funding (as was agreed years ago). With resources constrained—not just funds but also people’s time and energy—we cannot see a clear path to the kind of collaboration that shared funding would warrant.

We therefore have been seeking other options. Discussions have begun with the School of Public Health (SPH) about potential collaboration. A solid basis for collaborating seems to exist: The public health field has a large communication component, STJR students often take SPH courses and vice versa, and the SPH faculty has members with active science communication interests (including an STJR graduate who now has a doctorate in public health). Discussion thus far has identified potential for a mutually beneficial relationship, with SPH faculty contributing to STJR teaching and with STJR contributing to the new MPH curriculum (to be instituted in fall 2018), both by taking part in the integrated core and by making STJR courses part of an MPH specialization track. Collaboration with the SPH could help provide human and other resources needed for long-term continuation of the STJR program, and we look forward to further discussion.

The issue of continued leadership needs timely resolution, as I will turn 65 this year. Although I have no specific plans to retire, I have coordinated the STJR program for almost all of its 20 years, and I wish to focus more on other scholarly and professional interests. Further, I consider it unfair for students to enter a program so dependent on someone approaching a life stage at which continued wellbeing is uncertain. I hope that an associate coordinator or the equivalent can join me by 2018 and then take over as coordinator no later than 2019.

- “Develop a certificate in science communication obtainable by graduate students in other programs and perhaps science communication professionals. Anticipated 15 SCH or less.”

In response to the item above, the one-year status report stated the following:

The program remains interested in developing such a certificate. However, viability of such a certificate requires assurance that an STJR program coordinator will be available in the long term. Thus, specific steps to establish such a certificate are expected to ensue only if assurance is received that my base salary will remain at the CVM.

As the continued availability of an STJR program coordinator has remained uncertain, the paperwork to establish a certificate in science communication has not been undertaken. However, recently two non-STJR graduate students (one from public health and one from biochemistry) completed four STJR courses apiece; each then received a letter saying she has earned the equivalent of a certificate. The work with these students can serve as a model if steps to establish a certificate move forward.

- “Explore development of articulation agreements with undergraduate programs. BIMS is a logical program to initiate review.”

With regard to this item, the one-year status report stated the following:

The program continues to be interested in this regard. Recently the assistant dean for the BIMS (biomedical sciences) undergraduate program retired. Once his successor is chosen and in place, the time may be opportune to explore establishment of an articulation agreement. Also, the Texas A&M School of Public Health (SPH) is establishing an undergraduate major; an articulation agreement with this major also seems to be a natural possibility to explore. One main person developing this new major at the SPH is an STJR graduate with a doctorate in public health; he has consulting me about developing
writing-intensive courses for the new major, and an entrée seems to exist for discussing an eventual articulation agreement.

Given the uncertainties about the future of the program, formal discussions in this regard have not been undertaken. However, we have good working relationships with the assistant dean for the BIMS undergraduate program (Dr. Elizabeth Crouch) and with the SPH faculty member noted above. Thus, a solid foundation seems to exist for forming such articulation agreements if continued leadership of the program is assured. Meanwhile, some informal articulation exists, as instructors in writing-intensive courses for BIMS majors sometimes identify students with interest and ability in writing and introduce them to our program. If collaboration between the STJR program and the SPH materializes as hoped, we can envision articulation with the undergraduate public health major as well as the BIMS major.

- “Increase diversity in the program. Sources of students could include UH Downtown, which has a professional writing program, and PVAMU. Options to develop a 2 + 2 or a 4 + 1 were suggested.”

The one-year status report stated the following:

I am pleased to report that the students entering the program in 2014 show considerable diversity. Of the 5 confirmed entrants for the year, 1 is a permanent resident from Mexico, 1 is from Saipan (in the Northern Mariana Islands), 1 is a Fulbright scholar from Chile, and 2 are Texas natives. Active outreach to UH Downtown and PVAMU has not yet occurred and is a priority for this summer and fall. International outreach continues, for example when give workshops and presentations overseas.

Entrants to the program have continued to be relatively diverse; of the applicants for fall 2017 entry, about one third are international. Given the uncertainties noted regarding the program, active outreach to UH Downtown and PVAMU has not yet been undertaken. If existence of continued leadership becomes assured, such outreach would presumably be a priority.

- “Address reviewers’ observation that there is too little instruction on electronic communication. The program is known for strengths in writing and editing. Increased instruction in electronic communication might be achieved better through collaborations across campus than by developing considerable new course work in the area.”

The one-year status report stated:

This observation is being addressed. STJR students are being explicitly encouraged to take courses in electronic communication and related areas, and they receive guidance in identifying such courses; of the 5 STJR students taking courses on campus in Spring 2014, 2 took a course in digital photography (ARTS 310), and 1 took the course Multimedia Design and Development (ENDS 374). Also, this spring I met with Dr. Jack Elliot, head of the Department of Agricultural Leadership, Education, and Communications (ALEC), which offers some course work in electronic communication; prospects appear favorable for increasing STJR students’ and ALEC students’ access to courses in each other’s programs. In addition, STJR students doing assistantships and internships are taking considerable advantage of opportunities therein to develop electronic-communication skills.

STJR students continue to be encouraged to take courses in electronic communication. Such courses taken by recent students have included, as well as those noted above, VIST 474 (Designing for the Web), VIZA 625 (Multimedia Web Design), and VIZA 647 (Color
Photography). The discussion with the head of ALEC has not led to STJR and ALEC students' taking courses in the others' programs, perhaps largely because of the different emphases of the two programs. STJR students doing assistantships and internships continue to take advantage of opportunities therein to develop electronic-communication skills.

- "Expansion of the size of the program is anticipated. In response to questions regarding the target number to 'grow the program,' Gastel stated that the quality and sustainability of the program could be maintained if the enrollment was doubled. This would bring the size of the program to that of some of the most prominent programs in the nation. She stressed the solid record of the program in retention and placement."

The one-year status report stated:

Retention and placement remain strong, and the number of students confirmed for 2014 entry is somewhat above the average for recent years. I am hesitant, however, to market the program very vigorously unless it is clear that the program coordinator line will remain with the CVM.

In keeping with the end of the paragraph above, the program has not been marketed vigorously in recent years, and the average number of entrants per year has stayed about the same. Retention generally has remained strong. Placement has been excellent, with major entities in Texas and nationally hiring graduates of the program.

- "Involve more individuals in teaching the STJR writing courses to provide the students with additional perspectives. While the program uses a number of guest speakers, additional faculty who teach writing-intensive ("W") courses, edit journals, etc., might be able to teach in the program. Potential for cross-listing courses to build partnerships across campus was also viewed as an effective way to expand."

With regard to the above, the one-year status report stated the following:

Cross-listing courses seems like the more promising approach at present, as it would not require additional resources. The cross-listing of one or more courses may be an eventual outcome of the discussions with Dr. Elliot in ALEC. Also, as a university studies major in journalism will begin in Fall 2014, I contacted the director of the Journalism Studies Program this spring about meeting to discuss potential collaboration; he initially expressed enthusiasm about meeting but has not responded to requests to set a time to meet. A hurdle to having more people teach STJR writing courses is the need to pay people for their time or cover the amount of university time devoted to the teaching; as the program does not have designated funds, the funding would need to come from funding that I bring in. Also, some of the public information specialists and others on campus who appear qualified to teach skills courses in science writing do not have graduate faculty status. A solution might be to team teach a course with such an individual, with my being faculty member of record. I would welcome additional ideas.

Cross-listing courses with ALEC or the undergraduate journalism program no longer seems to be a promising approach, as the commonalities with ALEC appear more limited than earlier thought and as requests to meet with the director of the Journalism Studies Program have remained unanswered. However, the School of Public Health (SPH) has raised the possibility of cross-listing some courses, and some SPH faculty might be able to teach or co-teach STJR courses. Also, more faculty now have preparation to teach STJR courses: A lecturer hired in 2014 to teach W courses for BIMS majors is a graduate of the STJR program and, as faculty development her first year, was assistant instructor in some STJR courses; another lecturer hired
that year received the same type of faculty development; and a recently hired lecturer has taken courses from me as a science graduate student and might obtain experience as assistant instructor for an STJR course. These lecturers would need graduate faculty status to serve as instructors of record for such courses. Perhaps more significantly, their duties as faculty hired to teach W courses do not leave time to teach STJR courses. For them to do so, funding would be needed to cover some of their time.

- “Designate the science editing course as a core component of the curriculum of the program.”

The one-year status report stated:

Starting with the students entering the STJR program in Fall 2014, the science editing course will be among the required courses. Over the years, this course has been a 685 (Directed Studies) course, to maximize flexibility in scheduling. Now that it is well established and will be a core component of the STJR curriculum, we will apply to make this course a regular numbered course.

Beginning with the students entering in Fall 2014, all students have taken the science editing course. Paperwork is now being completed to make it a regular numbered course.

- “Explore possibilities to align aspects of the program with the One Health Initiative.”

In this regard, the one-year status report stated:

Although formal efforts to align aspects of the program with the One Health Initiative have not been undertaken, we have increasingly pursued commonalities. For example, in Spring 2014 an STJR student did a directed-studies elective consisting mainly of a research project on coverage of zoonotic diseases by US newspapers. Also, the upcoming issue of the CVM magazine, CVM Today, includes articles that STJR students have written relating to One Health. We remain alert for opportunities for additional alignment.

For most of the time since the one-year report, the One Health Initiative at the CVM has had interim leadership. This spring, however, Dr. Gerald Parker became Associate Dean for Global One Health at the CVM. Initial discussions with Dr. Parker have disclosed various possibilities for collaboration, such as involving STJR students and faculty further in writing and editing materials on One Health topics, having Dr. Parker speak in the STJR elective Risk and Crisis Reporting (VIBS 664), and co-sponsoring outside speakers such as reporters covering One Health topics. We look forward to further explorations in such regards.

- “Further cultivate current and potential synergies with other activities at the CVM and elsewhere at Texas A&M. The School of Rural Public Health (SRPH) wants to offer a bachelor’s degree after the university-HSC merger is complete; opportunities for collaboration in this regard were envisioned.”

The one-year status report stated:

As noted in discussing the potential for articulation agreements, plans for the bachelor’s degree in public health are moving forward, and potential synergies are starting to be cultivated. For instance, the STJR program is being viewed as a source of graduate assistants for writing-intensive courses for public health majors; if the number of STJR students will indeed increase, the additional assistantships will be especially welcome.
Synergies with the CVM’s public relations office and with the Texas A&M University Press also have been increasing, and during the past year I gave several communication-related presentations to the graduate student and postdoctoral associations at the CVM and to other groups on campus. Also, when the Department of Educational Psychology sought a research writing course for this summer, we developed a course stacked with VIBS 655 (Methods of Specialized Journalism); an STJR graduate who is a lecturer is serving as co-instructor. Current and potential synergies will continue to be cultivated.

Such synergies have indeed continued to be cultivated. As noted earlier in this report, we are exploring the possibilities for collaboration with the School of Public Health (formerly the School of Rural Public Health). Synergies with the CVM public relations office and the Texas A&M University Press have increased overall. Also, since the last status report, I have given many presentations to graduate student and postdoctoral groups at the CVM and the Health Science Center. New synergies that have arisen include ones with AGEP (the Texas Alliance for Graduate Education and the Professoriate, which serves minority students in STEM fields), the Texas A&M student activity A-STEP (Aggies in Science, Technology and Engineering Policy), and the College of Medicine research career development symposia.

- "Serve increasingly as a science-communication resource for students, faculty, and others throughout the CVM and the university, perhaps by having more of the current CVM faculty teach scientific writing. It was noted there is a significant unmet demand for instruction in this realm. The program could provide valuable service to the institution through endeavors such as the following:
  - Teaching more sections of the writing course for graduate students and postdoctoral fellows
  - Establishing mini-semester and winter-semester offerings
  - Hosting ‘science writers in residence’
  - Increasing the number of researchers served by the summer intensive course on research writing
  - Offering courses in grant writing
  - Offering continuing education courses

The program should explore audiences and potential new markets in geosciences and engineering. It also should look into strengthening ties with university science communicators and journal editors across campus.”

The one-year status report stated:

To the extent that resources permit, our program still wishes to serve increasingly as such a resource. We have discussed with some CVM faculty the possibility of their teaching scientific writing; one now is a guest speaker in a scientific-writing course, but none have shown much interest in teaching entire courses on the subject. Ties have been strengthened with some university science communicators; thoughts would be welcome on ways to more systematically strengthen ties with science communicators and journal editors across campus. Endeavors such as those in the bulleted list certainly are appealing. Although some could eventually become self-supporting, all will require at least initial investments of time and, in some cases, other resources. Currently the program has one faculty member (the program coordinator), part of whose time goes to an externally funded project, which generates funds helping to support the program; it has no staff and no dedicated budget. Ideas for pursuing the ideally envisioned endeavors despite these constraints would be appreciated.

Our program has remained interested in serving increasingly as such a resource. However, it still is highly constrained in time and funds. Thus, such service has continued to consist largely of giving guest presentations and opening our courses to graduate students from throughout the university. Our course VIBS 664 (Risk and Crisis Reporting) tends to attract particular interest,
and I have begun working with an education specialist in the state chemist’s office to develop an online version of this course, to be available largely as part of the proposed MS degree program in regulatory science. We remain alert for ways to provide more service despite the constraints. Two potential opportunities are the following: Some CVM faculty members who recently retired or soon will retire have expressed interest in providing volunteer service; experienced in writing scientific papers and grant proposals, they may be well suited to provide instruction or mentorship in scientific writing. Also, this spring the Texas A&M University vice president for research is stepping down and returning to the CVM faculty; he brings a wealth of research-communication knowledge to share. We hope to explore possibilities for enlisting these senior experts.

**Closing Comments**

In the three years since the one-year status report was written, the STJR program has remained productive despite constraints, and some progress has been made regarding some of the recommendations. However, uncertainty about funding a successor to the current coordinator has limited the progress made. The closing section of the one-year status report stated:

> [T]he most pressing need is still to ensure that the program coordinator’s budget line remains long-term at the CVM. Otherwise, the program seems unlikely to be sustainable beyond the current coordinator’s time as a faculty member. Pending resolution of this issue, efforts to pursue the recommendations for developing further the STJR program may be questionable uses of time.

Whether through collaborative funding or otherwise, ensuring a salary for a successor is essential if the STJR program is to survive. While I continue as coordinator, I will keep working to fulfill the recommendations in the institutional response memo insofar as circumstances permit and warrant. I hope that means of funding a successor will be identified shortly and that I can soon start working toward a smooth and successful transition of leadership.
Appendix E:

College of Veterinary Medicine & Biomedical Sciences
Strategic Plan
Our Vision
To be a leading academic veterinary institution that provides comprehensive solutions to complex societal issues involving animal and human health.
Our Culture & Climate
We strive for the CVM to be an ideal place to work and learn — an ideal community — with faculty, staff, and students who are peaceful, mindful, self-aware, and emotionally intelligent learners and scholars. We are dedicated to selfless service, growing leaders, respect, a positive conflict culture, the greater good, and the core values of Texas A&M University.

We believe that all else flows from our environment of excellence.

Our Mission
To enhance animal and human health and well-being globally in an ever-evolving, diverse society through transformational learning, discovery and innovation, patient care, and public service that impacts our state, our nation, and our world.
## Contents

- From the Dean ...................................................................................................................................... 5
- Leading the Way in Veterinary Education, Research & Outreach (VERO) ..................................... 6
- Leading the Way in Veterinary Innovation ....................................................................................... 8
  - Education & Programming ........................................................................................................ 8
  - Technology & Patient Care ......................................................................................................... 8
- Preamble ........................................................................................................................................... 10
- CVM Core Values ............................................................................................................................. 11
- Leading the Way in Transformational Learning ............................................................................ 12
  - Professional Education (DVM) .................................................................................................. 14
  - Graduate Education in Biomedical Sciences (MS & PhD) ......................................................... 16
  - Undergraduate Education in Biomedical Sciences (BS) .......................................................... 18
  - Continuing Education (CE) ....................................................................................................... 20
- Leading the Way in Discovery & Innovation ................................................................................... 22
- Leading the Way in Patient Care ...................................................................................................... 26
- Leading the Way in College Culture ................................................................................................. 32
  - Diversity ..................................................................................................................................... 32
  - Wellness ...................................................................................................................................... 33
  - Leadership ................................................................................................................................. 33
- Leading the Way in Vital Connections ............................................................................................. 36
  - Outreach ..................................................................................................................................... 38
  - Service ....................................................................................................................................... 38
  - Communications & Marketing ................................................................................................. 39
Creating a culture of excellence articulates TAMU’s and CVM’s bold recognition of necessary institutional evolution required to achieve its mission as a land, sea, and space grant institution of global preeminence to meet the evolving educational and societal needs of the state, nation, and world.

As the only college of veterinary medicine in Texas, the CVM has varied and complex responsibilities to serve more than 27 million Texans. We live in an increasingly complex and evolving society where solutions to issues and challenges must be addressed by overlapping, integrated, transdisciplinary teams within the CVM, among other schools and colleges at TAMU, and external partners.

TAMU’s traditional Core Values of Excellence, Integrity, Leadership, Loyalty, Respect and Selfless Service will continue to guide our decisions, programs and student development emphases. We will continue being effective and efficient stewards of resources and the public trust. We will further develop the university’s human resources to create a learning, research and service environment of the first order.

Our strengths are many. We are:

- Ranked #1 in the Southeastern Conference (SEC) and tied for #4 in the nation according to the U.S. News & World Report rankings of the nation’s best schools and programs.
- One of the largest colleges of veterinary medicine in the U.S., training nearly 600 DVM students each year, with an annual entering class of 142 students—soon to increase to 162. As of May 2018, the CVM has graduated 8,093 veterinarians.
- Ranked #2 in the number of graduate (MS/PhD) students at a U.S. college of veterinary medicine.
- The home of the Texas A&M Biomedical Sciences (BIMS) program, which is the largest degree-granting undergraduate major at Texas A&M, has a student enrollment over 2,350.
- Graduating BIMS majors who make up a large portion of Aggies that matriculate to Texas medical (39%), dental (41%), and veterinary (46%) professional schools.
- Fostering partnerships with Texas A&M University System schools and other institutions of higher education around the state to provide Texans with new and innovative avenues to pursue degrees as professional DVM students and undergraduate BIMS students.

We will continue to find new and innovative ways to:

- Serve all of Texas and advance animal, human, and environmental health.
- Support the state’s livestock and wildlife industries.
- Provide viable, diverse professional career paths for Texans.
- Promote science, technology, engineering, and mathematics (STEM) education.
- Contribute to the economic viability and job opportunities of local communities.
- Provide sophisticated disaster and emergency response support for animals throughout the state.
- Advance the veterinary medical profession.

Eleanor M. Green, DVM, DACVIM, DABVP
The Carl B. King Dean of Veterinary Medicine
Culminating a seven-year plan, the Texas A&M University System announced partnerships to expand veterinary education, research, and undergraduate outreach into several regions of the state through four A&M System universities in 2015. The partnerships are between the Texas A&M University College of Veterinary Medicine & Biomedical Sciences (CVM) and West Texas A&M University, Prairie View A&M University, Texas A&M University-Kingsville, and Tarleton State University.

These partnerships provide the expertise, leadership, and resources to meet the demand for veterinarians throughout our state, while serving rural and urban areas, protecting our food supply, doing research that matters, providing cost-effective educational and clinical services, and supporting a strong Texas economy.

The partnership with West Texas A&M University (WTAMU) is the first of these to be developed. A new curriculum has been recently designed and implemented to recruit and train students who have a passion for serving in small, rural communities. And, it’s already producing results. Through the WTAMU pipeline program, 19 Texas Panhandle-area students have recently entered veterinary school and are likely to return to the Texas Panhandle to practice, which exceeds the number of posted job opportunities.

In addition, WTAMU is now the largest producer of veterinary students in Texas, apart from Texas A&M. The Texas A&M Food Animal Track is already producing results and transforming veterinary education, producing more rural veterinarians through the WTAMU pipeline.

2017 + 2018 Food Animal Track DVM graduates have hit the field, specifically trained for beef cattle and food production medicine!

Michael Forrester  Garrett Janke  Chase Key  Aaron Rode  Benjamin Snowden  Annella Stanford  Brittany Thompson  David Wilbur

Justin Casares  Amy Eiland  Brent Hale  Charles Lehne  William Luckett  Travis Pruitt  Lauren Thompson  Lauren Waltzer
The Texas A&M University System has invested substantially in veterinary education.

- In 2016, the Texas A&M University System invested $120 million for a new, state-of-the-art Veterinary & Biomedical Education Complex (VBEC) to accommodate the needs of Texas for many years to come, as well as to support the best, most modern veterinary education in the nation.
- In December 2018, the Texas A&M University System broke ground on the new, $22-million, 22,000-square-foot Veterinary Education, Research & Outreach (VERO) facility at WTAMU.
- To date, approximately $90 million has been invested in the Texas Panhandle on the WTAMU campus to support veterinary education, the livestock industries, the veterinary profession, local communities, and the economic well-being of the region.

WTAMU and the Texas A&M VERO Center have received a four-year, $243,500 grant from the USDA’s National Institute of Food and Agriculture.

Project director Dee Griffin, DVM, and co-director Dan Posey, DVM, both Texas A&M College of Veterinary Medicine & Biomedical Sciences (CMV) faculty, relocated to WTAMU to establish the partnership between CVM and WTAMU. Grant funding will be used to support seven veterinary-centered programs, including:
- developing fourth-year student rural clinical training externships;
- developing summer working internships for students finishing their first or second years;
- supporting food animal student mentoring for those interested in food animal practice;
- supporting an annual rural practice and livestock operations tour for selected third-year students;
- practicing sustainability workshops for Texas Panhandle & Plains (TPH&P) rural veterinarians, including training for mentoring veterinary students and improved community communication skills
- aggressively recruiting qualified students with rural backgrounds; and
- recruiting outstanding rural students from 4-H and FFA programs to consider a veterinary career.

Rural TPH&P has significant, capturable veterinary opportunities. The organization and necessary collaborative partnerships are in place at WTAMU and the VERO to achieve the unique grant funding objectives, and for several of the objectives to become self-sustaining.

“The VERO facility will be the most cost-effective and innovative game-changer in support of rural veterinary medicine in the Texas Panhandle. The exchange of knowledge on the information superhighway between WTAMU and Texas A&M for the benefit of Texas and the livestock industry will accelerate.”

— Dr. Eleanor M. Green, the Carl B. King Dean of Veterinary Medicine at Texas A&M University
Leading the Way in Veterinary Innovation

The Texas A&M College of Veterinary Medicine & Biomedical Sciences (CVM) is harnessing innovation through ongoing programming, research projects, and technology, while also developing a new telemedicine program, that will guide veterinary medicine into the future.

Education & Programming

**VEA**

One of the ways the world of veterinary medicine is changing is through an increased focus on the veterinarian as an entrepreneur. The CVM's Veterinary Entrepreneurship Academy (VEA) has combined veterinary students, academic institutions, startup partners, and veterinary practices to accelerate animal health innovation and empower the next generation of veterinary practitioners.

Through the VEA, students from universities across North America are given the opportunity to intern with companies that are taking innovative approaches to their work in the veterinary and pet industries. The unique, 12-week program combines startups, students, universities, and veterinary practices to accelerate animal health innovation in an effort to educate, inspire, and transform students into future leaders and innovators within the industry.

**VIS**

For three years now, the CVM and the North American Veterinary Community (NAVC) have welcomed game-changers, innovators, entrepreneurs, and visionaries for the Veterinary Innovation Summit (VIS). At the event, veterinary and non-veterinary entrepreneurs and health professionals share fresh perspectives on the latest technologies, debate controversial issues, foster new ideas, and catapult the profession into the future with fearlessness and innovation.

The VIS is dedicated to sparking and fostering ingenuity through a combination of unique programming, a diverse attendee pool, and an immersive learning environment for veterinary professionals. One goal of the conference is to empower attendees to play a role in the degree of change that affects how technology impacts business, practice, and educational models, and especially in changing the way the attendees, who represented diverse backgrounds beyond veterinary sciences, think about veterinary medicine.

Technology & Patient Care

**Telemedicine**

With a recent faculty hire, telehealth in veterinary medicine is taking shape at the CVM’s Veterinary Medical Teaching Hospital (VMTH). The first telehealth faculty member ever hired at the CVM brings extensive experience in formulating veterinary medical policies on telehealth, including serving as the board liaison to a group that formulated the American Veterinary Medical Association (AVMA) policy on telemedicine, which was adopted in July 2017.
Leading the Way in Veterinary Innovation

By working to create a new telemedicine service for the VMTH, the CVM will be leading the way in this exciting field of veterinary medicine, as the educational opportunities involved with introducing telemedicine at the VMTH extend far beyond the fourth-year veterinary students who will work in the new service during their clinical rotations—all the way to the practices those students will go on to join as CVM graduates.

In the large animal medicine arena, a clinical assistant professor in equine internal medicine and ultrasound and his team are using telemedicine by connecting three Texas practices’ ultrasound machines to the internet. Using Google glasses and a webcam, team members can watch in real-time as private practice veterinarians perform ultrasounds and then offer medical advice. This kind of collaboration not only allows these private practice veterinarians the ability to learn new or different techniques, but it also may be part of the solution to the problem of limited access to specialty care in remote areas of the state or the world.

Ease

The CVM’s VMTH was the first veterinary teaching hospital to introduce a new mobile application that allows families to track the progress of their pet. With EASE—a state-of-the-art mobile communication tool—VMTH doctors, surgeons, veterinary technicians, residents, and the hospital client liaison are now able to stay connected with, provide timely updates to, and educate the families of patients who are being treated at the hospital.

EASE has been widely, and successfully, implemented in human hospitals and healthcare systems for four years but was only implemented in veterinary medicine in 2017, when it was adopted by the VMTH’s oncology, cardiology, dermatology, and ophthalmology services. Customized updates—through texts, photos, and videos—are sent to the families of patients as the animal undergoes treatment at the hospital, allowing patients’ family members to stay connected before, during, and after procedures and treatments being done at the hospital.

Clinical Trials

Through clinical trials at the VMTH, clinicians are working to solve problems that affect both animals and humans. Services including oncology, cardiology, dermatology, and orthopedics have developed large portfolios of clinical trials to help understand various conditions and treatments, from glioblastomas to rare diseases to lymphomas.

Through partnerships with private and public entities, the VMTH has been able to grow and support its clinical trials, and recent initiatives have worked to build its capacity to conduct trials. One way the CVM’s Small Animal Clinical Sciences (VSCS) department has done so is by building a bio-repository, which collects 10 critical tissues that are of important translational impact, by being part of a viral banking group, and by hosting a bio-banking symposium.
The College of Veterinary Medicine & Biomedical Sciences (CVM), the ONLY veterinary college in the state of Texas, is a proud part of Texas A&M University (TAMU). The CVM’s strategic plan is forward-looking, and the elements of the TAMU strategic plan were reviewed to ensure that our plan is consistent with, compatible with, and supportive of TAMU’s vision, purpose and values.

People are TAMU’s and the CVM’s most valuable asset, and “people make programs.” The University and the CVM strive to maintain an environment that encourages all employees to achieve their personal and professional goals and aspirations, as we work collectively toward achieving the University’s mission. In this environment, each person’s individuality and contributions are valued and respected. TAMU and CVM recognize that all people have rights at work, including the right to be treated with respect and dignity, the right to be recognized and rewarded fairly for performance, and the right to a work environment free from discrimination and harassment. The University and the CVM are committed to these rights. All individuals at TAMU and CVM are expected to treat each other in accordance with these rights.

Trust is the one thing that is common to every organization which, if removed, will destroy the organization. If trust is developed and leveraged, it has the potential to create unparalleled success. Trust means confidence and is a function of character and competence. Character is integrity, motive, and interest with and in people. Competence includes capabilities, skills, results, and track record. Both character and competence are vital for success. Self-trust is the confidence we have in ourselves. It is our ability to set and achieve goals, keep commitments, and put theory into practice. Trust is the hidden variable in the formula for success. Strategy and execution multiplied by trust equals results.

This CVM strategic plan lays out priorities and goals in teaching, research, and outreach and incorporates the priorities of our college to achieve Vision 2020, which would enhance the value of Texas A&M University to the Texas A&M University System, the state of Texas, the nation, and the world. Significant progress has been made on many of the indicators towards reaching the 12 Imperatives of Vision 2020 (http://vision2020.tamu.edu/the-twelve-imperatives) and there are areas still under development.

AS the CVM is continually planning strategically, it is essential to clearly define the distinct roles the CVM plays in the land-grant mission, build upon the College’s core strengths and unique abilities, and preserve its core values, mission, and vision to refocus efforts toward achievable and uniquely positioned strategic initiatives. The initiatives build on the success from the previous decade, recognize areas that need attention, and reaffirm our commitment to the TAMU Vision 2020.

The strategic plan encompasses the priority imperatives of the college:

- Strengthening and enhancing the undergraduate, graduate, professional, and life-long educational experiences
- Recognizing and supporting faculty and staff successes, advancements, and development
- Strengthening collaborative learning, discovery, and innovation in basic, applied, and translational research
- Elevating the CVM as an essential education and outreach partner to the veterinary community and beyond
- Providing excellent patient care and animal health and welfare to animal patients and clients of the veterinary medical teaching hospital along with state-of-the art high-impact experiential education for students
The CVM’s core values reflect the belief that people are our greatest asset, including faculty, staff, students, clients, constituents. Our core values represent a commitment to:

- **Knowledge**: Developing, transferring and applying understanding and insight
- **Leadership**: Developing leaders for veterinary medicine and biomedical sciences
- **Innovation**: Continuously working to identify new solutions
- **Community**: Fostering a professionally and personally rewarding, diverse and enjoyable environment
- **Societal Responsibility**: Serving the global community with integrity and accountability

Our core values are further reflected in each of the following statements:

- Embody the six core values of Texas A&M University in everything we do - Excellence, Integrity, Leadership, Loyalty, Respect, and Selfless Service.
- Develop leaders of character dedicated to serving the greater good, changing the world for the better.
- Serving every Texan every day to justify our positions to the state of Texas.
- Create and nurture an environment that attracts and retains the best faculty, staff, and students.
- Treat everyone well - be fair, transparent, direct, and honest in our interactions.
- Fully embrace diversity -- create and nurture an inclusive community for all, regardless of sex, race, color, age, national origin, religion, disability, marital status, sexual orientation, gender identity, pregnancy, or veteran status.
- Be the standard for animal welfare -- treat all animals with the ultimate care and compassion.
- Give everyone the opportunity to succeed and expect the best from everyone -- help make dreams come true for faculty, staff, students, and others.
- Make a difference - create impactful programs about which people are passionate.
- Build strong relationships with constituents - strengthen and nurture vital connections both within and beyond Texas A&M University.
- Adapt to and impact evolving societal needs – locally, nationally, and globally.
- Be attentive to the needs of Texas, the US, and the world.
Leading the Way in Transformational Learning

**PHILOSOPHY:**
The CVM strives to educate career-ready graduates prepared to contribute positively to societal needs and to impact local communities, the state of Texas, the nation, and the world.

In doing so, the CVM is changing the paradigm from teaching to learning through continual pedagogical innovations. The CVM has the drive and a unique resource in its Center for Educational Technologies (CET). The CET has expertise in pedagogy design, development, and implementation of face-to-face, online, and blended learning, and partnerships with the Center for Teaching Excellence in the Office of the Dean of Faculties and Associate Provost to provide resources and services to faculty so they can thrive as teachers and grow professionally. The curriculum review and redesign is a complex undertaking, and the CET is providing extensive support. Greater participation by a broader CET team will facilitate the implementation of the curriculum redesign plan taking into account and implementing the latest methodologies in education, use of technology, and adult learning for undergraduate, professional, graduate, and post-graduate students, as well as continuing education for a lifetime.

**Overarching Goals for Transformational Learning in the professional, graduate, undergraduate, and continuing education programs:**

- **Goal 1:** Recruit and retain the best faculty and staff who provide learning opportunities with no limits
- **Goal 2:** Provide the best educational facilities that support the modern learner and teacher within a community of scholars and learners
- **Goal 3:** Apply the latest teaching methods and technologies across all types of learners

**MISSION:**
To prepare students to meet evolving societal needs related to animal, human and environmental health through integrated educational experiences that promote lifelong learning, critical thinking, scientific excellence, personal, professional, and cultural competencies, and selfless service through high impact learning experiences that nurture innovation, entrepreneurship, and leadership. Be an essential partner to the global community in leading the integration of Global One Health and innovation concepts into learning, research, practice and outreach.
**Professional Education (Doctor of Veterinary Medicine – DVM)**

**MISSION:** To provide a premier DVM degree program that prepares graduates for a wide breadth of careers with a strong foundation of integrated medical knowledge, well-developed technical skills, and mastery of non-technical competencies critical to healthcare professionals.

**GOAL 1:** Graduate the highest quality, entry level, career-ready veterinarians with skill sets that will allow them to successfully pursue diverse career paths.

**Strategy 1:** Diversify curricular tracking opportunities.

- **Action 1:** Develop integrated tracks of study that are tied to proactive recruiting strategies
- **Action 2:** Develop integrated tracks of study within the curriculum that allow students to focus in an area of emphasis leading to attainment of diverse career goals
- **Action 3:** Optimize learning opportunities with other healthcare students in medicine, public health, and others
- **Action 4:** Optimize learning opportunities in unique settings including international experiences

**Strategy 2:** Provide exceptional mentorship in diverse career paths and life skills.

- **Action 1:** Designate and support specific faculty mentors for primary career paths
- **Action 2:** Develop and maintain strong faculty/student mentor groups through first three years of the curriculum
- **Action 3:** Develop and maintain specifically designed and monitored externship tracks and experiences
- **Action 4:** Maintain adequate academic and mental health support for DVM students, residents, and interns; this support should work in concert with a counselor within the VMTH

**Strategy 3:** Provide career counseling and engagement of employers.

- **Action 1:** Develop a career counseling center
- **Action 2:** Develop a comprehensive database of employment and advanced training opportunities
- **Action 3:** Develop a recruiting strategy that targets emerging career paths
- **Action 4:** Increase interaction of potential employers with DVM students
- **Action 5:** Increase opportunities for DVM students to participate in basic and/or clinical research activities

**GOAL 2:** Our curriculum and innovative learning methods achieve superior outcomes.

**Strategy 1:** Provide a vibrant, constantly evolving curriculum, which reflects the learning objectives of both the American Veterinary Medical Association (AVMA) Council on Education (COE) and the North American Veterinary Medical Education Consortium (NAVMEC)

- **Action 1:** Complete New Graduate Outcome document with wide faculty input
- **Action 2:** Continue comprehensive curriculum review process with maximal faculty input
- **Action 3:** Proactively provide documentation of curricular improvements through annual accreditation documents

**Strategy 2:** Document and continually update curricular mapping and outcome assessments measurements to assure AVMA CoE compliance and that societal needs and expectations are met.

- **Action 1:** Maintain continual, ongoing curricular mapping that is used to support curricular revision
- **Action 2:** Develop progressive methods for integrated outcomes assessment
Strategy 3: Engage faculty in the latest learning methods.
Action 1: Provide faculty support in course design and development of materials for learning
Action 2: Provide faculty support for development, integration, and application of outcomes assessment methods
Action 3: Provide faculty support for publication in peer-reviewed education journals
Action 4: Provide comprehensive faculty and Curriculum Committee support through the CET
Action 5: Continue faculty and curricular support and development through the Bridges Chair
Action 6: Emphasize methods for faculty reward based upon efforts in education
Action 7: Develop faculty learning communities to share ideas, pedagogical research, and educational collaboration
Action 8: Provide resources to develop innovative learning models

Strategy 4: Increase quantity of relevant, high quality high-impact learning experiences through advanced technologies, complemented by judicious use of live animals.
Action 1: Utilize innovative technologies including high fidelity and low fidelity simulation, 3D imaging, artificial intelligence, virtual reality, etc., to inspire students with diverse learning styles
Action 2: Maximize the use of simulation and minimize the use of live animals in the learning environment.
Action 3: Where live animals are used, maintain the highest standards of compassionate animal care and welfare
Action 4: Utilize a well-supported and progressive clinical skills laboratory throughout all four years of the DVM curriculum
Action 5: Develop integrated methods of assessment throughout the curriculum

GOAL 3: Create an optimal learning environment.

Strategy 1: Increase quality/quantity/diversity of students in the applicant pool (see diversity section).
Action 1: Develop focused recruitment strategies
Action 2: Develop mentorship programs and learning experiences at the pre-veterinary level
Action 3: Develop partnerships with colleges and universities that to facilitate a diverse applicant pool
Action 4: Assess use of global review techniques in our selections process
Action 5: Increase size and diversity of financial support for scholarships and educational initiatives

Strategy 2: Maximize use of CVM learning facilities.
Action 1: Provide faculty support for use of new learning technologies
Action 2: Provide faculty support for increased effective use of flexible classroom spaces, teaching materials, and integrated outcome assessments

Strategy 3: Focus on importance of professional competencies including multicultural awareness, communication skills, lifelong learning, leadership, financial literacy, critical thinking, and problem-solving.
Action 1: Implement required curricular components to address professional competencies
Action 2: Continue to utilize the New Graduate Competencies in providing a documented road map for development of professional competencies
Action 3: Apply data-driven assessment methods for professional competencies
Graduate Education in Biomedical Sciences  
(Master of Science – MS & Doctor of Philosophy – PhD)

MISSION: To provide a premier graduate degree program for preparing innovative, globally-competitive biomedical scientists who are committed to the improvement of the health and welfare of animal, humans, and the environment and who have skill sets necessary to pursue diverse career paths in academic, public and private sectors.

GOAL 1: Graduate the highest quality career-ready scientists who understand the essential interrelationships between animals, humans and the environment.

Strategy 1: Increase the quality/quantity/diversity of students in the applicant pool.
Action 1: Expand the active recruiting strategy to attract and retain the best trainees.
Action 2: Utilize targeted methods to increase the number of individuals from underrepresented groups in biomedical research.
Action 3: Coordinate recruiting efforts with related TAMU graduate programs that emphasize Global One Health.
Action 4: Continue to refine the dedicated website for graduate program recruitment and promotion of trainee and program successes.
Action 5: Apply uniform admission standards and stipends to maintain uniformity among graduate programs.
Action 6: Continue to increase the visibility and recognition of graduate program through outreach and recruitment.
Action 7: Provide assistantships that are competitive with nationally ranked biomedical sciences graduate programs.
Action 8: Increase the number of veterinarians pursuing masters or doctoral degrees.

Strategy 2: Increase internal and external funding to enhance graduate education.
Action 1: Promote and assist faculty with preparation of faculty-nominated TAMU and CVM fellowships (i.e., Graduate Merit and Graduate Diversity Fellowships) applications.
Action 2: Promote and assist faculty and trainees with external pre-doctoral and post-doctoral fellowship applications.
Action 3: Encourage, engage and support faculty to pursue and obtain more extramural training grants.
Action 4: Identify and pursue alternate sources of funding such as industry partnerships and private giving.
Action 5: Engage the CVM development office with CVM researchers to help identify resources for trainee stipends and targeted research projects through private giving.

Strategy 3: Provide an optimal learning environment that supports retention, timely graduation and scholarly work published in top tier professional journals.
Action 1: Continue to offer the CVM graduate student boot camp to equip incoming students with a full understanding of program requirements, responsible and ethical research conduct, knowledge of college and university core research facilities and research resources.
Action 2: Graduate programs will conduct formative assessment of graduate students’ progress toward achieving expected learning outcomes to earn masters and/or doctoral degree.
Action 3: Graduate programs will monitor students’ progress through assessment of research outcomes including presentations, publications, and funding.
Action 4: Increase staff advising support for prospective and existing graduate students to meet graduate program milestones.
GOAL 2: Enhance the graduate educational experience.

**Strategy 1:** Emphasize the core importance of the research experience and communicate knowledge with the scientific community and the public.

Action 1: Integrate research into all levels of learning, teaching, and training.
Action 2: Continue development of enrichment programs that provide advanced developmental research training, opportunities to present research results through internal CVM and TAMU symposia, Student Research Week, interdisciplinary seminar series, and through travel support to national and international professional meetings/conferences.
Action 3: Provide an internal research grant program, grant-writing workshops, and informational meetings regarding agency-specific extramural funding opportunities.
Action 4: Establish professional development programs that expose students to technology development, translational research, and commercialization.
Action 5: Assist faculty with the development of Individual Development Plans for graduate students and postdoctoral researchers.
Action 6: Utilize the CVM web communications and public relations support to make the scientific community aware of the CVM graduate program quality and successes.
Action 7: Utilize innovative technologies including high fidelity and low fidelity simulation, 3D imaging, artificial intelligence, virtual reality, etc., to inspire students with diverse learning styles.

**Strategy 2:** Facilitate the exploration of diverse career paths in academia, public, and private sectors and their associated skill sets.

Action 1: Provide academic and non-academic career panels to explore diverse career paths.
Action 2: Provide professional development courses and workshops on topics such as scientific writing, public speaking, resume development, interviewing skills.
Action 3: Promote and support active CVM Graduate Student and Post-doctoral Student associations and their professional enrichment activities.

**Strategy 3:** Encourage curricular innovation within the graduate program.

Action 1: Annually review the graduate program academic expectations.
Action 2: Support strategic course development to enhance graduate programs.
Action 3: Complete a curriculum inventory including exploration of teaching certain courses from within the college.

GOAL 3: Ensure clinical residents attain the highest quality, career-ready educational experience.

**Strategy 1:** Provide excellent residency training programs in all disciplines offered.

Action 1: Ensure excellent mentorship with outstanding role models.
Action 2: Provide strong and varied caseload that fulfills the criteria of the respective Veterinary Specialty Organizations.
Action 3: Provide educational and professional development opportunities that complement hands-on clinical training.
Action 4: Encourage and support participation in discovery and innovation.
Action 5: Review all residency training programs at defined intervals to ensure excellence, as indicated by data driven metrics such as recruitment, retention, diversity, participation in discovery and innovation, client relations, colleague relations, rate of achievement of specialty board certifications, post-residency positions, etc.
Undergraduate Education Biomedical Sciences (Bachelor of Sciences – BS)

**MISSION:** To provide a premier undergraduate degree program in biomedical sciences with a global perspective that uniquely prepares graduates to competitively gain admission to any health care professional school, pursue research and graduate studies, or enter careers in health science industries.

**GOAL 1:** The Biomedical Sciences Program (BIMS) will be a premier degree program for preparing students for post-graduate education in the health professions.

**Strategy 1:** Increase students’ mastery of competencies essential to a health profession (communications, collaboration, management, lifelong learning, scholarship, value of research, leadership, diversity and multicultural awareness).

  - **Action 1:** Increase curricular integration through producing a curricular map that will track learning over the multi-level/multi-year program
  - **Action 2:** Implement a major-level Honors program, which fosters student research, leadership and communication
  - **Action 3:** Partner with DVM program on financial literacy, leadership, and communication

**Strategy 2:** Advance the goal of global one health by graduating students who are innovative, critical thinkers in the science of health and disease.

  - **Action 1:** Expand transdisciplinary problem solving through learning communities, community-based projects, and student peer mentoring
  - **Action 2:** Create a Global One Health Certificate (Grand Challenges)
  - **Action 3:** Expand opportunities for participation in international experiences
  - **Action 4:** Increase opportunities for participation in undergraduate research
  - **Action 5:** Develop a mechanism for reporting of capstone experiences from Studies Abroad and Internships that students complete in order to demonstrate critical thinking and reflection associated with High Impact Learning experiences

**GOAL 2:** BIMS graduates will reflect the demographics of the state.

**Strategy 1:** Create strategic educational partnerships to diversify the pool of applicants.

  - **Action 1:** Continue and expand the number of active 2+2 Community College Partnerships
  - **Action 2:** Disseminate BIMS admission information to high school counselors and students throughout the state to increase the diversity of the applicant pool and to inform them about opportunities for pre-professional undergraduate programs at Texas A&M University

**Strategy 2:** Adapt educational experiences to better serve the changing demographics of our student population.

  - **Action 1:** Develop a learning community for students arriving with 50 or more credit hours to TAMU
  - **Action 2:** For students from collegiate high schools, consider credit for the experiential learning that occurs at Community Colleges and continue High Impact experiences at TAMU and in the CVM

**Strategy 3:** To achieve timely graduation for all segments of our student body.

  - **Action 1:** Within the curricular map, assure that newly developed honors opportunities, research, studies abroad, and interdisciplinary certificates have a place in the degree plan
  - **Action 2:** Assure that advising strategies promote student understanding of degree progress
GOAL 3: Create an optimal learning environment that enhances retention and success.

**Strategy 1:** Increase the size and diversity of financial support for scholarships and educational initiatives.
- Action 1: Disseminate information to the CVM/BIMS graduates through the online BIMS Newsletter.
- Action 2: Disseminate information to the CVM/BIMS graduates through online podcasts/blogs of students returning from studies abroad and those who have been recipients of current scholarships.
- Action 3: Work with CVM Alumni Relations to increase contact with CVM/BIMS graduates.
- Action 4: Invite BIMS alumni to two to three activities a year that will foster identification with the CVM/BIMS and its programs/students.
- Action 5: Engage the BIMS Advisory Board to expand scholarship opportunities and educational initiatives.

**Strategy 2:** Provide faculty support for innovative teaching and learning.
- Action 1: Provide faculty forums and information sessions in conjunction with the CET to increase awareness of available resources within the CVM.
- Action 2: Maintain a student advisory board that facilitates feedback to professors regarding curriculum and learning, as well as spending of differential tuition funds tied to course fees.

**Strategy 3:** Change the paradigm from teaching to learning through use of adaptive classroom space, technology and attention to learning styles.
- Action 1: Encourage BIMS faculty to participate in the Bridges Teaching Academy and other seminar series focused on pedagogy.
- Action 2: Act as a liaison between faculty to facilitate sharing of pedagogy and best practices.
- Action 3: Utilize innovative technologies including high fidelity and low fidelity simulation, 3D imaging, artificial intelligence, virtual reality, etc., to inspire students with diverse learning style.
Continuing Education (CE)

**MISSION:** To provide premier continuing education programs for graduate veterinarians and para-professionals to ensure that participants remain on the cutting edge of knowledge with a strong foundation of integrated medical expertise, well-developed technical skills, and mastery of non-technical competencies critical to healthcare professionals and for non-veterinarians to promote the continuum of optimal animal health care.

**Strategy 1: Develop a vibrant continuing education plan.**
- Action 1: Develop a CE plan for veterinarians
- Action 2: Develop a CE plan for para-professionals
- Action 3: Develop a CE plan for non-veterinarians

**Strategy 2: Develop a sustainable business plan.**
- Action 1: Create a new faculty position, director of continuing education
- Action 2: Ensure the business model is fiscally sound
- Action 3: Develop quality metrics for accountability
- Action 4: Conduct a market analysis of continuing education needs and opportunities.
- Action 5: Explore and implement synergistic partnerships with other CE providers such as TAMU, NAVC, TVMA, TEVA, ACVIM, other professional organizations, industry, and other educational institutions

**Strategy 3: Incentivize faculty and staff participation in CE course development and delivery.**
- Action 1: Elevate the value of college-based CE instruction to parity with the value assigned to curricular teaching in faculty evaluation by developing quality metrics and modifying policy and process
- Action 2: Include faculty remuneration in the business plan
Leading the Way in Transformational Learning
PHILOSOPHY:
Convergence is the coming together of insights and approaches from originally distinct fields. Convergence will:

(1) make fundamental contributions in our drive to provide creative solutions to the most difficult problems facing us as a society;
(2) provide power to think beyond usual paradigms and to approach issues informed by many perspectives instead of a few;
(3) entail partnerships at the intersection not only of the life and medical sciences, physical sciences, computational sciences, and engineering, but also of the economic, social, and behavioral sciences, arts, and humanities disciplines, and beyond; therefore, amplifying the potential for innovations of incredible variety and magnitude;
(4) provide fertile ground for new collaborations that engage stakeholders and partners not only from academia, but also from national laboratories, industry, clinical settings, and funding bodies; and
(5) capture the expertise necessary to address a set of research problems and the web of partnerships involved in supporting such scientific investigations and enabling the resulting advances to be translated into new forms of innovation and new products. —Convergence, Facilitating Transdisciplinary Integration of Life Sciences, Physical Sciences, Engineering, and Beyond, National Research Council of the National Academies, 2014.

The adoption and exploitation of technology, such as I-School, etc., particularly information and communication technologies, must be an integral component of the CVM’s functioning and performance—our lives depend upon it. Technology supports and is critical in fulfilling all of our missions and goals. It is an essential component to do our jobs and provides the educational, research, and outreach expectations of the citizens of Texas and society as a whole. We must increase efforts to adopt and embrace technology and understand how it will position and support the relevance of the CVM for the future.

MISSION:
To improve the health and well-being of animals, people, and the environment through collaborative discovery, innovation, and learning in basic, applied, and translational research and commercialization in biomedical sciences.

GOAL 1: Support basic science and translational research programs that advance the health and wellness of animals, people and the environment throughout the world.

Strategy 1: Review, strengthen and diversify signature programs and participation in other collaborative and interdisciplinary programs across campus.

Action 1: Create a college definition of CVM signature programs and bring this to the entire college
Action 2: Periodic review of signature programs by the CVM Research Advisory Committee, followed by the CVM Executive Committee, to identify critical mass, expertise, productivity, translational components, and impact for assessing research strength, leadership, training grants, program project grants, center grants, core facilities, or other evidence of excellence
Action 3: Expand and strengthen signature programs, as warranted
Action 4: Attract and retain internationally recognized faculty
Action 5: Increase the number of eminent researchers and scholars
Strategy 2: Promote translational and collaborative interdisciplinary research programs that support the concepts of One Health.

Action 1: Facilitate research efforts that unite departments and support College-wide signature programs in One Health areas

Action 2: Reward faculty who collaborate throughout the University and beyond to increase research productivity

GOAL 2: Improve the resources, infrastructure and support for research.

Strategy 1: Promote faculty professional development.

Action 1: Establish a college-wide mentoring system and professional development opportunities for all faculty engaged in research (grant writing workshops, etc.)

Action 2: Facilitate faculty development and professional leaves to expand research capacity.

Action 3: Identify and nominate faculty for internal awards as stepping stones to prestigious national and international awards

Action 4: Identify rising stars and promote them for development opportunities such as research support, endowed chairs and professorships

Strategy 2: Ensure adequate research facilities that provide needed infrastructure for research.

Action 1: Renovate college and/or TVMDL laboratory space to accommodate the growing research enterprise and the demolition of old research space. (Approximately 25 new laboratories with about 20,000 square feet of additional laboratory space will be required to support replacement of Building 507; another 25 laboratories will be needed should building 1026 be replaced). Space needs will be met by specific proposals to the University Office of Research, joint ventures with other colleges, and by fundraising

Action 2: Optimally utilize Texas Institute for Pre-clinical Studies (TIPS) space for research activities

Action 3: Periodically review research and core laboratory space needs and allocation and develop a mechanism for dynamic and fluid assignment of research space by the CVM research space assignment committee

Action 4: Provide open laboratories through construction or renovation that encourage the sharing of ideas, collaboration, and meet the changing needs of researchers

Strategy 3: Maximally utilize the new Global One Health Research Facility, a state-of-the-art laboratory and animal holding space to allow research conducted at BSL-2 and BSL-3 levels of containment for infectious disease research, vaccine development, etc.

Action 1: Inform and encourage current faculty with interest in the Global One Health Research Facility

Action 2: Consider strategic hires in infectious diseases

Action 3: Seek support through a TAMU Legislative Appropriations Request to the Governor’s Budget and Planning Office and the Legislative Budget Board

Strategy 4: Expand infrastructure support for clinical research.

Action 1: Recruit a Clinical Trials coordinator(s) to serve as an expert resource for information on the issues and requirements for the conduct of clinical trials and support of regulatory compliance

Action 2: Expand the Biobank capabilities (DNA Bank/Biospecimen Repository) for utilization in translational research

Action 3: Increase visibility of ongoing clinical trials through improvements to the CVM website and clinical trials landing page

Action 4: Incorporate expertise and interest in conducting translational research and clinical trials in the review of candidates for tenure-track positions in clinical departments
Action 5: Pursue CTSA (Clinical Trials Clinical and Translational Science Awards) with UT Southwestern Medical School and finalize partnership

Action 6: Following CTSA formalization, pursue membership in CUGH (Consortium of Universities for Global Health)

**Strategy 5:** Continue to provide support for Core Research Resources.
Action 1: Review CVM core facilities (for example: histology, imaging, other)
Action 2: Provide space allowances, consolidation of resources and investment in equipment and technical staff for core facilities that expand opportunities for extramurally funded interdisciplinary One Health research initiatives
Action 3: Ensure optimal utilization of Veterinary Medical Park in support of research through long-range needs assessment of faculty needs for large animal BSL1 and BSL2 research

**GOAL 3: Increase research funding.**

**Strategy 1:** Foster a culture that is supportive of research, technology development and commercialization.
Action 1: Engage and train faculty and staff in the identification and solicitation of all types of funding sources
Action 2: Provide new investigators with pilot program/core facility support to enable utilization of core facilities for generation of preliminary data in support of extramural grant submissions
Action 3: Provide professional development opportunities for postdoctoral fellows and graduate students in grantsmanship and effective communication of research and its significance

**Strategy 2:** Increase faculty awareness of technology, licensing, and commercialization (TLC).
Action 1: Engage the Office of Technology Commercialization and TAMUS faculty who have experience in technology commercialization to share best practices
Action 2: Focus on research from basic discovery to commercialization, including TIPS as an important component of that effort

**Strategy 3:** Expand and diversify funding streams including federal, state, private donors, and industry.
Action 1: Engage the CVM Development Office to work on identifying private sources of funding for specific research topics
Action 2: Utilize professional liaisons to gain access to present CVM technology and intellectual property to appropriate potential industry consumers to facilitate CVM-industrial collaboration

**Strategy 4:** Assist with development of collaborative teams and facilitate pursuit of large grants such as Training Grants, Program Project Grants and Center Grants.
Action 1: Provide incentives for interdisciplinary, multi-investigator grants and research accomplishments that are tied to F&A research revenue
Action 2: Develop and place on the CVM website a searchable faculty expertise directory so TAMUS and external faculty can find each other (Ex.: http://discoveryportal.org/default.aspx)
Action 3: Develop strong relationships across campus and the Texas A&M System and beyond, within the veterinary profession, and throughout the animal industries

**Strategy 5:** Increase the visibility of CVM researchers and programs by nominating faculty for major external awards of excellence and honors.
Action 1: ADRGS office will compile an awards and honors portfolio/calendar of major professional society and international awards and prizes for which CVM faculty are eligible.
Leading the Way in Patient Care
Leading the Way in Patient Care

**PHILOSOPHY:**
At the CVM Veterinary Medical Teaching Hospital (VMTH), outstanding patient care, clinical trials, along with an exceptional teaching and research environment are of the utmost importance. Add more about the hospital sections here:

- Patient and Client Relationships
- Referring Veterinarian Connection
- Clinical Trials
- Teaching Environment
- Research Environment
- Business Model

**MISSION:** To advance animal health and welfare through innovation, experiential learning, state-of-the-art patient care, support of veterinarians, discovery through clinical investigations and trials, service to the livestock industries, and state-wide outreach.

Goal 1: Provide and maintain an environment for clinical teaching, where learners benefit from participation in experiential learning opportunities in health care, management, and client relations.

**Strategy 1:** Provide a hospital that is a dynamic model for veterinary hospitals for the present and the future.
Action 1: Accomplish Goals 3, 4, 5, 6, and 7.

**Strategy 2:** Establish and maintain caseloads that support the teaching missions of the CVM.
Action 1: Provide reports on caseload trends; collaborate with faculty to optimize operations

**Strategy 3:** Optimize the contribution of staff to teaching of professional students.
Action 1: Use staff teaching contributions when considering career ladder advancement

**Strategy 3:** Support pricing strategies that benefit teaching.
Action 1: Review and update Hospital fees annually and mid-year, as needed
Action 2: Explore teaching subsidies, through philanthropy, designation of hospital revenue, etc

Goal 2: Create an unprecedented experience (the Disney WOW factor) for all constituents at all times. Our definition of “constituents” includes the following: patient owners; referring veterinarians; faculty, staff, and students, and other stakeholders.

**Strategy 1:** Expand the culture of service to ensure the creation of an exceptional experience (Disney model) for all of the “constituents” listed above.
Action 1: Provide educational programming regarding development and implementation of WOW experiences
Action 2: Establish a system to encourage and capture from all constituents great ideas that create WOW experiences
Leading the Way in Patient Care

- Action 3: Implement and share broadly WOW creating experiences
- Action 4: Recognize and reward creators of WOW experiences

**Strategy 2:** Establish and maintain excellent working relationships with professional partners such as referring veterinarians.

**Goal 3:** Make the VMTH the premier primary care and referral hospital in the state of Texas.

**Strategy 1:** Actively promote hospital services by strengthening relationships with referring veterinarians and increasing public awareness among potential and existing clients.
- Action 1: Identify and deliver effective outreach initiatives.

**Strategy 2:** Actively promote preventative and primary care through awareness and outreach to local clients.
- Action 1: Develop a wellness program with primary care, telehealth, virtual clinic and other personalized services for the Texas A&M community (faculty, staff and students)
- Action 2: Offer premier services such as “client friendly” appointment scheduling, patient drop off services, robust communications from pre-appointment through follow-up, concierge amenities, mobile veterinary care, etc., all of which are supported by advanced, user-friendly technologies, as appropriate

**Strategy 3:** Have a system of competitive pricing schedules that provide simple, accurate estimates.
- Action 1: Develop a clinician-friendly and staff-friendly method of accurately estimating client costs
- Action 2: Develop and promote package pricing for VMTH services

**Strategy 4** Optimize the organizational structure and maintain best business practices to operate the VMTH in a financially sound manner.
- Action 1: Conduct an expert assessment of organizational structure and business practices
- Action 2: Utilize the VMG groups, other practice management resources, faculty, and staff to identify and implement best business practices
- Action 3: Develop a process map of clinical operations to identify potential efficiencies and improvements
- Action 4: Explore efficiencies related to centralized business services
- Action 5: Revise those current business practices that can be improved immediately, such as having the purchasing department prioritize all invoices to ensure that any that offer a discount for payment within a certain period of time are processed before non-discount invoices in order to take the stated discount

**Strategy 5:** Ensure quality control of diagnostic testing hospital wide.
- Action 1: Identify appropriate personnel to perform routine quality assurance tests and monitor results

**Strategy 6:** Increase access, availability, effectiveness and encouragement of training and professional development.
- Action 1: Provide comprehensive professional development and training opportunities tailored to the individual’s responsibilities, experience, expertise, and aspirations

**Strategy 7:** Conduct ongoing market analysis and process mapping to determine what referring veterinarians and other clients need and prefer and develop program portfolios consistent with those findings.
- Action 1: Engage professional partners to review existing operations and develop recommendations, and implement strategies
Strategy 8: Establish and maintain excellent working relationships with business partners.
Action 1: Monitor and report on engagement with business partners and establish the need for continued activities
Action 2: Review opportunities for additional partnerships

Goal 4: Facilitate scholarly works.

Strategy 1: Encourage and support clinical trials.
Action 1: Market clinical trials to referring veterinarians

Strategy 2: Develop a method for sharing resources, for example equipment, technicians, facilities, administrative staff, etc.
Action 1: Make access to the Imaging Center more available for cadaver work at a discount
Action 2: Improve online medical record (VMIS) searches for retrospective studies

Strategy 3: Support pricing strategies that benefit research.
Action 1: Review and update VMTH fees annually and mid-year, as needed

Goal 5: Be a place where faculty, students, and staff want to work and learn.

Strategy 1: Engage faculty and staff in creating the desired hospital working and learning environment that promotes a sense of pride and ownership.
Action 1: Involve faculty and staff in two-way feedback opportunities regarding VMTH issues and decisions
Action 2: Address specific VMTH activities using dynamic committees and task forces of staff and faculty
Strategy 2: Ensure an inclusive and collegial culture that promotes respect, trust, open communication, and engagement
Action 1: Acknowledge and manage conflict for the health of individuals and the organization
Action 2: See section on College Culture

Goal 6: Provide optimal infrastructure.

Strategy 1: Create an environment that will optimize Hospital Services.
Action 1: Create and implement a facilities and equipment plan for the VMTH that addresses the improvement and replacement of existing assets
Action 2: Design consolidated diagnostic service laboratories in proximity to large animal and small animal hospitals to maximize interaction with clinicians, residents, students, and diagnostic services
Action 3: Assess the Voice Over Internet Protocol (VOIP) phone system
Action 4: Identify and implement effective strategies to ensure WiFi and mobile phone connectivity throughout the VMTH
Action 5: Assess use of Cubex machines and opportunities to expand service in the VMTH

Strategy 2: Build new Small Animal Hospital (SAH).
Action 1: Maintain the SAH as the number one priority for the current Texas A&M University capital campaign.
Action 2: Continue an aggressive SAH fundraising schedule, and event calendar (Dean, VSCS Dept. Head, Assistant Dean for Hospital Operations, and Development Team)
Action 3: Engage faculty in fundraising efforts, where appropriate
Goal 7: Explore innovations in veterinary health care delivery that are consistent with CVM/VMTH mission and develop an integrated business strategy to expand CVM resources, services, and accessibility.

**Strategy 1:** Establish a presence, either onsite or online, in strategic and/or underserved localities and regions

- **Action 1:** Develop a wellness program with primary care, telehealth, virtual clinic and other personalized services for the Texas A&M community (faculty, staff and students).
- **Action 2:** Complete a feasibility study for satellite facilities and services in strategic and/or underserved locations.
- **Action 3:** Complete a feasibility study for mobile veterinary services, both primary care and referral, in strategic and/or underserved locations.

**Strategy 2:** Develop demand-driven expedited clinical services.

- **Action 1:** Expand the Small Animal Primary Care model to other services.

**Strategy 3:** Establish pre-paid health care plans, such as primary care, wellness, and other.

- **Action 1:** Complete a feasibility study of pre-paid health care plans.

**Strategy 4:** Incorporate remote medicine, telehealth/telemedicine into primary care, referral services, and disease investigations.

- **Action 1:** Identify service areas as pilot providers, for example: primary care, dermatology, radiology, ophthalmology, cardiology, cytology, histopathology.

**Strategy 5:** Leverage industry/commercial partnerships in veterinary healthcare delivery.

- **Action 1:** Identify and explore opportunities with current and potential industry/commercial partners.
Leading the Way in Patient Care
Leading the Way in College Culture
**PHILOSOPHY:**

Every day our world is becoming increasingly diverse and global. The college student population and environment are microcosms of our society. Texas A&M University, as a land-grand institution, has a critical and ethical responsibility to ensure fulfillment of the needs of the increasing multicultural population and society within Texas.

Diversity is an indispensable component of academic excellence. Excellence cannot be achieved if we do not value diversity in all its human dimensions—age, gender, gender identity or expression, race, ethnicity, sexual orientation, nationality, culture, physical and mental ability, socio-economic status, religion, and the like. There is compelling evidence that diversity unlocks innovation and drives market growth, a finding that should intensify efforts to ensure that the CVM embodies and embraces the power of differences. Inherent diversity involves traits with which one is born, and acquired diversity involves traits one gains from experience. Leaders who exhibit at least three inherent and three acquired traits outperform others and create an environment where outside the box ideas are heard.

**Diversity**

**Goal 1: Enhance faculty, staff, and student diversity in an inclusive environment.**

**Strategy 1:** Implement the CVM Diversity Strategic Plan.
- **Action 1:** Follow roadmap in strategic plan
- **Action 2:** Gain national recognition through awards and publications
- **Action 3:** Share knowledge through publications and best practices

**Goal 2: Recruit and retain the best possible faculty and staff to achieve all college missions and embody its values.**

**Strategy 1:** Make the CVM a highly desirable place for a long-term career by offering outstanding students, facilities, leadership, and collaborative opportunities.
- **Action 1:** Recruit faculty and staff from diverse backgrounds using best practices for hiring.
- **Action 2:** Retain faculty and staff from diverse backgrounds through professional development and collaborative opportunities
- **Action 3:** Provide a safe and inclusive environment for teaching, learning, and scholarship.

**Strategy 2:** Make the CVM a highly desirable and inclusive work environment in terms of climate, equity, and diversity.
- **Action 1:** Emphasize and live the Texas A&M University Core Values.
- **Action 2:** Foster a transparent environment that encourages difficult dialogues and increase awareness of implicit bias and privilege.
- **Action 3:** Develop a common conflict culture.
- **Action 4:** Continue to provide a breadth of opportunities for professional development and leadership for a lifetime.
Strategy 3: **Strengthen faculty, staff and student professional skills competencies (communication, conflict management, collaboration, diversity and multicultural awareness, team development, and leadership).**

Action 1: Continue to hold CVM Leadership at all levels accountable for diversity and inclusion activities.
Action 2: Continue to build curricular content in diversity, inclusion, conflict management, communication and cultural humility at all levels.
Action 3: Actively support diversity and inclusion activities across the college

Wellness

Goal 1: Enhance faculty, staff, and student physical and mental wellness and health.

Strategy 1: **Develop a CVM Wellness Plan.**

Action 1: Empower a task force of faculty, staff, and students to develop a plan for the CVM.
Action 2: Provide resources as needed to facilitate items requested by the task force to enhance physical, mental, and emotional health.
Action 3: Keep wellness in forefront of all initiatives

Leadership

Goal 1: Develop a plan for “CVM Leadership for a Lifetime.”

Strategy 1: **Develop a lifelong learning spectrum (engaging existing college, TAMU campus and external programs, as appropriate).**

Action 1: Students (undergraduate, DVM, graduate students, residents/interns)
Action 2: Faculty (all ranks to administration)
Action 3: Staff (all classifications to administration)

Strategy 2: **Continue expansion of CVM Mediation Course participation.**

Strategy 3: **Develop a CVM New Faculty Orientation Program.**

Action 1: Incorporate building tours, college climate and culture, One Health, cross college/department communications, performance expectations (tenure and promotion, faculty evaluations, peer reviews), college and university traditions, professional development opportunities, leadership, and mentorship
Action 2: Consider including current faculty, postdoctoral fellows, residents, and interns

Strategy 4: **Mentor all faculty and staff in a timely and effective manner that promotes their academic success.**

Action 1: Formalize a robust departmental/unit mentorship program for faculty and staff
Action 2: Support and foster use of innovative pedagogical methods, CTE, and CET availability
Action 3: Researcher support through grant writing workshops, internal mentoring programs
Action 4: Encourage and incentivize faculty engagement with innovation and entrepreneurship

Strategy 5: **Attract funding for additional endowed chairs and professorships.**

Strategy 6: **Enhance the recognition and reputation of the faculty and staff for their achievements.**

Action 1: Strengthen nomination of faculty and staff at all levels for internal and external awards
Action 2: Enhance professional networking
Leading the Way in College Culture
Leading the Way in Vital Connections
Leading the Way in Vital Connections

PHILOSOPHIES:
Global One Health — Global One Health refers to the inextricable link, the perpetual interaction, between animal and human health in a shared environmental, with both natural and man-made components.

Global One Health is a collaborative, transdisciplinary complex and integrated cultural, behavioral, and paradigm shift to attain sustainable optimal health and well-being for humans and animals; it includes biological, chemical, physical, and socioeconomic factors. As the only college of veterinary medicine in Texas, we must proactively accept a leadership role in bringing together other disciplines and contribute substantially to the TAMU Global One Health Grand Challenge in addition to integrating Global One Health concepts into educational, research, and outreach responsibilities. Tie into TAMU interdisciplinary focus and team science!

International Programs — Because we live in a global and multicultural world and are a part of an international community working to solve international societal issues, we owe it to our students to learn from different teaching styles, explore issues and solutions not offered at TAMU CVM, practice cross-cultural communications, and study world events from various perspectives.

International programs enable faculty and students to be world citizens through study abroad, student exchanges and internships, faculty visits and exchanges, international development, and capacity building. In addition, collaborative relationships between TAMU CVM faculty and faculty from other universities who share research or teaching interests are encouraged and enabled.

CVM Communications (communications, public relations, and marketing) — CVM Communications must be well coordinated with the central university’s communications and marketing goals in order to “tell the CVM story to the world” and describe to the public and to state and federal policy makers the everyday societal benefits and value that the CVM provides through education, research and outreach.

CVM Communications should be an equal partner in proactively developing, designing, implementing, marketing, and archiving all TAMU CVM programs and initiatives. Tie into TAMU branding and TAMU Marketing & Communications.

Development — The economic reality and level of public support for universities today elevate the importance of philanthropic support for CVM programs. The Office of Development engages the entire CVM community in developing, cultivating, and stewarding philanthropic relationships by understanding the passions and areas of greatest interest of potential and existing donors, friends, and alumni and matching them with the strengths of the college, its mission, and strategic plan.

All members of the college must be passionately involved and engaged in their education, research, and outreach programs and translate that dedication by showing potential donors how their support will help solve issues of interest to them and society.
MISSION: To extend the reach and impact of the CVM and its faculty, staff and students through leadership in veterinary medicine, support of animal-related industries and government agencies, educational partnerships, community service/outreach, and leveraged resources.

Outreach

Goal 1: Position the CVM to be viewed as an essential educational partner.

Strategy 1: Expand collaborative efforts with Texas community colleges and system schools to develop articulation agreements and matriculation relationships into TAMU CVM (2+2, MOAs with TAMUS universities, consortia).

Strategy 2: Engage with pre-K through pre-veterinary educational constituencies (PEER, TAMUS outreach).
   Action 1: Increase CVM outreach to K-12
   Action 2: Assess outreach opportunities and needs

Goal 2: Connect the CVM and external stakeholders for mutual benefit.

Strategy 1: Expand collaborative efforts with external stakeholders.
   Action 1: Form and empower relevant advisory boards/councils
   Action 2: Engage alumni, referring veterinarians, professional organizations, animal-related organizations, and other constituents in pertinent college initiatives

Service

Goal 1: The CVM will leverage its unique strengths and capabilities to serve the state, its regions, and local communities.

Strategy 1: The Veterinary Emergency Team (CVM VET) will effectively partner with TAMU, TAMUS, and local, state and national agencies to provide requested emergency response and preparedness training.

Goal 2: The veterinary and medical professions, animal-related industries, and government agencies will seek the leadership and advice of CVM in advancing animal health, veterinary medical education, discovery, innovation, and societal issues.

Strategy 1: Encourage faculty, staff and students to lead and/or participate in relevant local, state, national, and international professional organizations.

Strategy 2: Encourage faculty, staff and students to lead and/or participate in relevant local, state, national and international animal-related organizations.

Strategy 3: Encourage faculty, staff and students to lead and/or participate in relevant local, state, national and international government and non-government entities.
Communications and Marketing

Goal 1: The CVM will be recognized as a leader and aspirant peer in academic veterinary medicine.

**Strategy 1:** Effectively and transparently communicate information across the CVM community in a timely manner.

**Strategy 2:** Continue to tell our story to local, national, and international professional and lay audiences.

**Strategy 3:** Increase educational programs and informational materials in the VMTH for referring veterinarians, clients and others.

- **Action 1:** Create educational programs within VMTH for referring veterinarians, clients and others
- **Action 2:** Create educational/instructional tools and materials for use with clients
- **Action 3:** Engage the referring veterinarians
- **Action 4:** Express routine appreciation for the referring veterinarians

Goal 2: CVM graduates will be recognized as leaders in veterinary medicine, Global One Health and biomedical sciences.

**Strategy 1:** Increase use of TAMU Marketing and Communications and CVM Communications to tell the CVM story and highlight successes.

- **Action 1:** Charge CVM Communications to lead this effort
- **Action 2:** Develop and/or further engage strategic partnerships
  - TAMU Campus: such as Health Science Center, College of Agriculture & Life Sciences
  - TAMU System: such as West Texas A&M, Kingsville, Stephenville, Corpus.
- **Action 3:** Develop a state-wide plan for CVM to reach all corners of the state and package these ideas into an exceptional item for the 85th Texas Legislative Session and look beyond to the 86th Texas Legislative Session in 2019
- **Action 4:** Increase the value received from partnerships
  - Determine criteria for judging the value of an opportunity (H).
  - Identify possible partnerships, e.g. national, state and local VMAs, veterinary practices, other TAMU colleges, other CVMs, etc.
- **Action 5:** Increase CVM’s capabilities and utilization of technology and social media.
  - Assess needs, opportunities, and objectives (C)
  - Research and explore options (H)
  - Implement a technology strategy that aligns technology investments with the actual needs of users
- **Action 6:** Increase utilization of CVM Center for Educational Technologies (CET) by the CVM and external customers
  - Ensure that faculty are aware of the CET and are able to take full advantage of its capabilities (C)
  - Continually expand support and capabilities of the CET to broaden its accessibility within and beyond CVM (H)
  - Develop an appropriate business model and strategy to optimize its sustainability and value to CVM as well as external customers
- **Action 7:** Increase the transfer of intellectual property to private sector for commercialization of products and services
Appendix F:

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) (typically taken the first fall semester)
___ VIBS 660 (Reporting Science and Technology) (typically taken the first fall semester)
___ VIBS 658 (Research Methods in Science and Technology Journalism) (typically taken the first spring semester)
___ VIBS 665 (Science Editing) (typically taken the first spring semester)
___ VIBS 684 (Professional Internship) (taken after at least two semesters)
___ (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) (typically taken the first fall semester)
___ VIBS 660 (Reporting Science and Technology) (typically taken the first fall semester)
___ VIBS 658 (Research Methods in Science and Technology Journalism) (typically taken the first spring semester)
___ VIBS 665 (Science Editing) (typically taken the first spring semester)
___ (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 G:

Syllabi: Core Courses in Science and Technology Journalism
Issues in Science and Technology Journalism

VIBS 657-600 — Fall 2019
Mondays 8:45-11:30 am, VIDI 208

Instructor: Yasha Hartberg, PhD
Office: VIDI 394, (979) 458-7816
yhartberg@cvm.tamu.edu

Office hours: Whenever my door is open or by appointment. To set up an appointment, first consult the link on the eCampus course homepage. If none of the times listed there work, then please email me to see what other times I might be available.

Syllabus & Course Policies

Welcome to VIBS 657! This course serves as a gateway to the Science and Technology Journalism program and, as the title suggests, is designed to give you a sense of the issues you will face as a professional in the science communication field. As we will see, “issues” is a broad term that will require the entire semester to unpack. Even then we will necessarily leave a lot of ground uncovered. To give you some idea, though, we will be covering issues such as:

- Constraints faced by science writers and editors
- The many roles of the journalist in the scientific enterprise
- Strategies for communicating science effectively
- The professional environment of science communicators
- The scholarly literature on science communication

We will pursue these goals largely through readings and in class activities. As such, it is expected that you attend class each week, that you complete assigned readings before arriving, and that you actively participate.

Readings for the course will be taken from a variety of sources. As much as possible they will come from freely available materials posted to eCampus as needed. There are, however, some books we will read from extensively enough that they can’t be covered through fair use and you will have to secure access to them either through the library or by purchasing them yourself. These include:

- Science in Public: Communication, Culture, and Credibility, by Jane Gregory and Steve Miller (Perseus, 2000)
- Communicating Popular Science: From Deficit to Democracy, by Sarah Tinker Perrault (Palgrave Macmillan, 2013)
- Embargoed Science, by Vincent Kiernan (University of Illinois Press, 2006)
Your grade in VIBS 658 will come from a combination of writing assignments, presentations, and class participation. Due dates for assignments will be announced in class. The contributions of the various components to your final grade will be as follows:

- **Writing assignments:** 60%
- **Presentations and in class activities:** 30%
- **Participation:** 10%

**A note about my grading philosophy**

You are all graduate students with proven records of excellent academic achievement. You wouldn’t be in this program if you weren’t. I therefore expect “A” quality work from each of you and I work from the assumption that you will perform to those expectations. I see no reason, then, to fret about numerical grades in graduate classes. Instead, each of your graded assignments will receive one of three marks:

- \( \checkmark \) Your work meets my expectations for excellent, graduate level performance.
- \( \checkmark^+ \) Your work exceeds my expectations in some way.
- \( \checkmark^- \) Your work doesn’t meet my expectations.

Note that the most frequent reason students receive a check minus is because they neglected to address some key element asked for in a writing prompt, so please read prompts carefully. Your final grade for each course component, then, will be determined by the balance of checks on all assignments. If that balance comes out as checks or better, you’ll receive an A for the class.

**Attendance and Punctuality**

Much of the substantive content in VIBS 657 comes about through in class discussions, presentations, and activities. Therefore, it’s important that you attend each class unless you have a university approved excuse or otherwise make arrangements with the instructor in advance. It is also important that you arrive on time. Not only is this a professional courtesy, course activities are often planned with a specific number of students in mind. Showing up late or not at all can significantly affect the class dynamic. Keep in mind that parking near VENI is extremely limited. That will not change as the semester progresses so you need to plan accordingly. Arriving late or having an excessive number of unexcused absences will negatively impact your attendance grade in VIBS 657.
Schedule

There is not a set schedule for VIBS 657. I will assign readings each week that you’re expected to read before coming to class. Prompts for assignments will be given in class and posted to eCampus.

Academic Integrity Statement

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 http://aggiehonor.tamu.edu.

Counseling & Psychological Services

If you find yourself in a crisis situation you may go to the Student Counseling Service (979.845.4427) for crisis intervention anytime during business hours, 8:00 am to 5:00 pm, Monday through Friday. After 4 pm or on weekends, you may call the HelpLine at 979.845.2700 (V/TTY), or go to the nearest hospital emergency room. For more information, please visit https://caps.tamu.edu/.

The Americans with Disabilities Act

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 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 at White Creek or call 845-1637. For additional information visit http://disability.tamu.edu.
Research Methods in Science and Technology Journalism

VIBS 658-600—Spring 2020
Mondays 8:45-11:30 am, VIDI 208

Instructor: Yasha Hartberg, PhD
Office: VIDI 394, (979) 458-7816
yhartberg@cvm.tamu.edu

Office hours: Whenever my door is open or by appointment. To set up an appointment, first consult the link on the eCampus course homepage. If none of the times listed work, then please email me to see what other times I might be available.

Syllabus & Course Policies

Welcome to VIBS 658! As the title suggests, this is a methods course. I know that many of you come into this class with some research experience. For most of you, though, that experience is in disciplines far afield from Science and Technology Journalism. Some of the specific goals for this course, then, are to increase your ability to:

- Understand research methods commonly used in journalism, communication, and other related fields
- Evaluate research on science and technology journalism
- Perform research in science and technology journalism, both in academic and private sector settings
- Think critically about all research, regardless of the field

No single course could hope to cover every methodology employed by researchers in any field, nor will we cover any single method in enough depth that you could apply it with confidence in your own research. The hope, rather, is that this class will provide you with a conceptual toolkit, an inventory of methods to consider as you move forward with your work.

We will spend significant time this semester delving into the primary literature in science and technology journalism research. Not only will this help you see how the methods we discuss have been applied to answer research questions, it will also give you a broader perspective on what kinds of problems the field engages. This should prove valuable for those of you considering the thesis option for Science and Technology Journalism. For those of you thinking of the internship option, a greater understanding of research methods will help you to write more effectively about scientific and technological developments.
We will pursue these goals largely through readings and in class discussions. As such, it is expected that you attend class each week, that you complete assigned readings before arriving, and that you actively participate. Most of our readings will come from two required sources:

- *Naked Statistics: Stripping the Dread from the Data*, by Charles Wheelan

Note that *Mass Media Research* is an insanely expensive book to purchase new, especially considering its flimsy binding and poor page quality. I therefore strongly recommend that you find a used copy, which can usually be found readily online for far less. You would probably also be fine using an older edition of the book.

**Grading**

Your grade in VIBS 658 will come from a combination of writing assignments, literature searches, and class participation. Due dates for assignments will be announced in class and on eCampus. The contributions of the various components to your final grade will be as follows:

- Writing assignments: 40%
- Literature searches: 35%
- Participation: 15%

**Attendance and Punctuality**

Much of the substantive content in VIBS 657 comes about through in class discussions, presentations, and activities. Therefore, it’s important that you attend each class unless you have a university approved excuse or otherwise make arrangements with the instructor in advance. It is also important that you arrive on time. Not only is this a professional courtesy, course activities are often planned with a specific number of students in mind. Showing up late or not at all can significantly affect the class dynamic. Keep in mind that parking near VENI is extremely limited. That will not change as the semester progresses so you need to plan accordingly. Arriving late or having an excessive number of unexcused absences will negatively impact your attendance grade in VIBS 657.
A note about my grading philosophy

You are all graduate students with proven records of excellent academic achievement. You wouldn’t be in your program if you weren’t. I therefore expect “A” quality work from each of you and I start with the assumption that you will perform to those expectations. I see no reason, then, to fret about numerical grades in graduate classes. Instead, each of your graded assignments will receive one of three marks:

√  Your work meets my expectations for excellent, graduate level performance
√+ Your work exceeds my expectations in some way
√- Your work doesn’t meet my expectations

Note that the most frequent reason students have received a check minus in previous semesters is because they neglected to address some key element asked for in the writing prompt, so please read prompts carefully. Your final grade for each course component, then, will be determined by the balance of checks on all assignments. If that balance comes out as checks or better, you’ll receive an A for the class.

Schedule

There is not a set schedule for VIBS 658. I will assign readings each week that you’re expected to complete before coming to class. Prompts for assignments will be given in class and posted to eCampus.

Academic Integrity Statement

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 http://aggiehonor.tamu.edu.

The Americans with Disabilities Act

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit http://disability.tamu.edu. Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.
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. There also will be guest segments in person or by distance media.

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


The three required books can be accessed electronically through the Texas A&M library. They also are available from various booksellers.

In addition, there will be reading from the following books (the first four of which also are available electronically through the Texas A&M University library):


If you do not have journalism background, you may find it useful also to consult a textbook such as the following:

Core reading assignments (including book chapters and articles) 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 9/4 5%
- points from reading 9/11 5%
- choice of conference sessions to cover 9/18 5%
- news story on journal article of choice 9/25 5%
- report on three internship portfolios 10/2 10%
- profile of a scientist 10/16 15%
- proposal for feature article 10/23 5%
- feature article or alternative assignment 11/13 20%
- quiz on *News & Numbers* 11/20 5%
- small project of your choice 12/4 15%
- class participation (incl. mini presentations) — 10%

All writing assignments should be 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. Copies for your classmates and yourself can be single-spaced. If you email the instructor your assignment by 9 p.m. the evening before it is due, she will make the copies.

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 or partial day that 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. An average of 89.50 or above will earn a final grade of A, an average of 79.50 to 89.49 will earn a B, and so forth.

*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 of this type depends on contributions from the students as well as 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 Writing Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/28</td>
<td>Introduction to the Course</td>
</tr>
<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></td>
<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></td>
<td>Introduction: Sources of Story Ideas and Information</td>
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<td></td>
<td>Presentation/Discussion: The Structure of News Stories</td>
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<td></td>
<td>Workshop: Examples of News Stories Based on Journal Articles</td>
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<tr>
<td>9/4</td>
<td>Discussion: Reading Assignment Due Today</td>
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<tr>
<td>2</td>
<td>[Note: In this course, you should be actively engaged with the reading. As you read, please ask yourself questions such as the following:</td>
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<td></td>
<td>• What material in this reading is especially useful, interesting, insightful, or otherwise worthwhile?</td>
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<td></td>
<td>• What points in this reading seem debatable? What counter-arguments might be made?</td>
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<td></td>
<td>• 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 clearer or more interesting?</td>
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<td>To aid in classroom discussion, please keep notes about such items.]</td>
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<td>Demonstration/Discussion: Library Resources</td>
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<td>Mini-Workshop: Writing Assignment Due Today</td>
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<td>Core Reading Due:</td>
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<td></td>
<td>• some science news stories</td>
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<td></td>
<td>• Field Guide: Chapters 2, 7, 8, and 17</td>
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<td></td>
<td>• “Late Night Thoughts about Science Writing” by Alton Blakeslee (Quill, November–December 1994, pp. 35-38)</td>
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<td></td>
<td>• “How to Structure News Stories” by Tony Rogers, <a href="http://journalism.about.com/od/writing/a/storystructure.htm">http://journalism.about.com/od/writing/a/storystructure.htm</a></td>
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<td></td>
<td>• Texas A&amp;M University Libraries website (<a href="http://library.tamu.edu/">http://library.tamu.edu/</a>) (Please spend at least half an hour browsing on this website.)</td>
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<tr>
<td></td>
<td>Writing Due: a news story based on a journal article</td>
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<td></td>
<td>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 materials, textbooks, and other journal articles. However, you should not look at popular stories, and you should not do interviews. Above your story, please indicate the newspaper, wire service, or news website 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. (Note: Please write the story as if you were reporting on a newly published journal article.)</td>
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</tbody>
</table>
Discussion: Covering Various Realms of Science

Introduction and Exercise: Some Organizations in Science Communication
Discussion: Covering Conferences
Workshop: Some Stories from Conferences
Introduction: Some Texas A&M Opportunities to Write for Publication
   (Guest: Jennifer Gauntt, Interim Director, CVM Communications)

Core Reading Due:
- *Field Guide*: Parts Four and Five (Chapters 23-36)
- “Publishing Excellent Conference Reports: Editors and Reporters Share Advice" by Barbara Gastel (*Science Editor*, July-August 2002, pp. 118-121)
- some stories from conferences

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 found especially helpful or interesting. Not all points should come from the same reading. If possible, briefly discuss how you could envision applying each point in your work. You may use any format that you consider appropriate. The assignment should run about 500 words (2 double-spaced pages).

Workshop: Writing Assignment Due Today

Discussion: Sources of Story Ideas and Information:
- Periodicals and Books
- Government, Associations, and Other Institutions
- Online Resources
- Scientists, Engineers, Physicians, and Other People

Discussion: Some Profiles of Scientists; Profile Writing

Core Reading Due:
- *Field Guide*, Chapter 1
- *Ideas Into Words*: Foreword, Chapters 1-3

• some 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 American Association for the Advancement of Science (AAAS) meeting. From this standpoint, review the meeting program available at https://aaas.confex.com/aaas/2019/meetingapp.cgi/Home/0. Identify three scientific sessions on which you probably would like to write news stories; for each, say why you consider the topic newsworthy. Also identify three scientific or other 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.)

9/25

Discussion and Workshop: Internships in Science Journalism

5

Presentations and Interviews: Some Recent Interns

Tips: Giving Effective Presentations

Core Reading Due:


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, wire service, or news website for which it is intended. Below your story, please list the sources you consulted in preparing it. Also, please submit a copy of the scientific paper or an electronic link to it.
10/2
Discussion: Plans for Profiles
Discussion: Feature Writing in Science
Discussion: Crafting a Science Story, Part 1
Presentations and Interviews: One or More Recent Interns
Workshop: Writing Assignment for Today
Core Reading Due:
- *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
- some short or medium-length feature articles other than profiles

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 you learned thereby (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.

10/9
Mini-Presentations: Writing Science Blog Posts
Progress Reports on Profiles
Discussion: Crafting a Science Story, Part 2
Discussion: Working with Editors
Core Reading Due:
- *Ideas Into Words*: Chapters 6 and 7
- *Field Guide*: Chapters 9, 10, and 12
- examples of science blog posts

Instructions for Mini-Presentation:
Identify a chapter of Science Blogging: The Essential Guide that interests you, and prepare a brief presentation conveying highlights of it. Accompany the presentation with a 1-page handout.

10/16
Discussion: Writing About Science for Magazines
Browsing: Some Magazines in the Sciences
Discussion: Fact Checking
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

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. However, the version submitted today must be complete and polished; otherwise, 10 points will be deducted from your grade on the final version.)

10/23
Exercise: Analysis of a Science Magazine
9
Discussion: Writing Analytically on Research, Part 1
Discussion: More about Query Letters/Pitches
Workshop: Writing Assignment for Today

Core Reading Due:
- News and Numbers: Front Matter and Chapters 1-5
- “Is This a Story? How to Evaluate Your Ideas Before You Pitch” by Mallory Pickett (The Open Notebook, 1 May 2018, available at https://www.theopennotebook.com/2018/05/01/is-this-a-story/)
- some queries from the pitch database (http://www.theopennotebook.com/pitch-database/) in The Open Notebook

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. The 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 later in the syllabus.)

10/30
Discussion and Mini-Presentations: Science Reporting from Institutions
10
Discussion: Reporting Analytically on Research, Part 2
Highlights: ScienceWriters2019
Core Reading Due:
- News and Numbers: “A Guide to Part II” and Chapters 6-8
- Field Guide: Part Six (Chapters 37-42)
- “Government Public Information” by Gail Porter in Encyclopedia of Science and Technology Communication, edited by Susanna Hornig Priest
- “Introduction” in Handbook for Science Public Information Officers

Instructions for Mini-Presentation:
Identify a section of Handbook for Science Public Information Officers that interests you, and prepare a brief presentation conveying highlights of it. Accompany the presentation with a 1-page handout.

11/6 Discussion: Reporting Analytically on Research, Part 3
11 Discussion: Writing and Reviewing Books in the Sciences
Guest Segment: Mike May, PhD, Science & Technology Publishing Consultant

Core Reading Due:
- News and Numbers: Chapters 9-12 and back matter
- “Science Isn’t Broken: It’s just a hell of a lot harder than we give it credit for” by Christie Aschwanden (FiveThirtyEight, 19 August 2015, available at https://fivethirtyeight.com/features/science-isnt-broken/)
- Field Guide: Chapter 13
- “How to Write a Book Chapter or a Book” in How to Write and Publish a Scientific Paper, 8th edition
- “Read This! (Or Not): Writing Book Reviews” by Jeanne Erdmann (The Open Notebook, 6 June 2017, available at https://www.theopennotebook.com/2017/06/06/read-this-or-not-writing-book-reviews/)

11/13 Discussion and Browsing: Investigative Science Journalism
12 Discussion: Some Columns, Editorials, Op-Eds, and Essays
Workshop: Writing Assignment Due Today

Core Reading Due:
- Field Guide: Chapters 18 and 22
- excerpts from The Science Writers’ Investigative Reporting Handbook
- some examples of columns, editorials, op-eds, and essays

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 at the next session. However, the version submitted today must be complete and polished; otherwise, 10 points will be deducted from your grade on the final version.)

11/20 Quiz on News and Numbers
13 Discussion: Science Reporting for the Broadcast Media
Viewing/Listening: Excerpts from Award-Winning Broadcast Science Journalism
Presentation/Discussion: Podcasting

Core Reading Due:
- Field Guide: Chapters 11, 14, and 15
- “Science on Radio” by Aries Keck, “Science Documentaries” by José Azevedo, and “Television Science” by Ayelet Baram-Tsabari in Encyclopedia of Science and Technology Communication, edited by Susanna Hornig Priest
- selected other reading on reporting science for the broadcast media

Core Listening and Viewing Due:
- some award-winning radio and television science stories

12/4 Workshop: Project Due Today
14 Wrap-Up Exercise

Writing Due: small 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, meeting presentations, or both
- a set of blog posts
- a review of one or more books about science or science journalism
- an article on some aspect of science reporting
- part of a scientific paper, proposal, or 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.

**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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, please 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 visit [http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu).
VIBS 665.600
Science Editing
Spring 2019
Fridays, 8:45–11:30 a.m.
VIDI 208
Prerequisite: graduate status or permission of the instructor

This course is designed mainly to help you become more adept at editing written material about science. It also is intended to help you build a foundation for continuing to develop your editorial skills. A further goal is to help you explore career opportunities in science editing. In addition, the course can improve your writing and your ability to work with editors.

The course provides guidance on editing materials both for segments of the public and for readers in scientific and technical fields. It focuses mainly on editing text, but it deals with illustrations and design as well. It also touches on print production and on business aspects of editing.

The course includes discussions, readings, homework exercises, and projects. It also includes guest segments and a session at the Texas A&M University Press. If desired, it may include a visit to a printing company.

The main book for the course is
This book is available electronically through the Texas A&M library and is carried by booksellers.

Other readings for the course include the Science News Stylebook and a variety of articles and chapters. Core reading assignments are listed on the schedule below, and additional readings will be noted in class. Because much of your learning will depend on your participation, you are expected to attend class regularly. You are allowed one free absence; additional absences must be excused ones as defined in the Texas A&M University Student Rules (https://student-rules.tamu.edu/rule07/).

If you are taking the course for 3 credits (as required in the MS program in science and technology journalism), the graded items and the percentages of your grade they will constitute are as follows:

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework exercises</td>
<td>30%</td>
</tr>
<tr>
<td>Project #1: editing a piece for the public (due 2/28)</td>
<td>15%</td>
</tr>
<tr>
<td>Project #2: editing a scientific paper or such (due 4/3)</td>
<td>15%</td>
</tr>
<tr>
<td>Project #3 (presentations 4/24 and 4/28; written version due by 5/1)</td>
<td>30%</td>
</tr>
<tr>
<td>Class participation</td>
<td>10%</td>
</tr>
</tbody>
</table>

If you are taking the course for 2 credits, 50% of your grade will be based on the homework exercises, 40% will be based on project work, and 10% will be based on class participation; the project work can consist of either 2 medium-length projects (Project #1 and Project #2, each constituting 20% of your grade) or 1 larger project (Project #3). If you are taking the course for 1 credit, you need not do the projects, and your grade will be based 90% on the exercises and 10% on class participation. Each student’s lowest exercise grade will be dropped.
Most exercises and other written assignments are listed on the schedule that follows. Instructions for the projects appear at the end of the syllabus. Further information will be provided in class.

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. An average of 89.50 or above will earn a final grade of A, an average of 79.50 to 89.49 will earn a B, and so forth.

The success of a course such as this one depends on contributions from students as well as 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>
</tr>
</thead>
<tbody>
<tr>
<td>1/17</td>
<td>Introductions: The Participants and the Course</td>
</tr>
<tr>
<td></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>1/24</td>
<td>Review of Exercises and Reading Due Today</td>
</tr>
<tr>
<td></td>
<td>Discussion and Exercise: Editing for Conciseness</td>
</tr>
<tr>
<td></td>
<td>In-Class Exercises: Levels of Editing; Light Editing</td>
</tr>
<tr>
<td></td>
<td><strong>Main Reading Due:</strong></td>
</tr>
<tr>
<td></td>
<td>• Einsohn and Schwartz: 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>• Handouts on standard editing marks and levels of editing (courtesy of Elizabeth Whalen), pages labeled 40-43 and 45-49</td>
</tr>
<tr>
<td></td>
<td><strong>Optional Reading:</strong></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 and Schwartz</td>
</tr>
<tr>
<td></td>
<td>• Whalen exercise on editing marks (on page labeled 44)</td>
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<tr>
<td></td>
<td>• Exercise: writing queries</td>
</tr>
<tr>
<td>1/31</td>
<td>Review of Exercises and Reading Due Today</td>
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<tr>
<td></td>
<td>Discussion: The Author-Editor Relationship</td>
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<tr>
<td></td>
<td>Discussion and Demonstration: Basics of Online Editing</td>
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<td></td>
<td>Discussion: Editing for the Nonspecialist</td>
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<tr>
<td></td>
<td>Introduction: Project #1</td>
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<tr>
<td></td>
<td><strong>Main Reading Due:</strong></td>
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<tr>
<td></td>
<td>• Einsohn and Schwartz: Chapter 4 (“Punctuation”) and Chapter 5 (“Spelling and hyphenation”)</td>
</tr>
<tr>
<td></td>
<td>• Selected <em>Science Editor</em> readings on the author-editor relationship</td>
</tr>
</tbody>
</table>
- Selected Science Editor articles on online editing

**Optional Reading:**
- Montagnes: Chapter 2 (“Getting the most out of words”) and Chapter 3 (“The editor’s many tasks”)

**Main Exercises Due:**
- Worksheets: Chapters 4 and 5 in Einsohn and Schwartz
- Light editing of paragraphs
- Light-to-medium editing of a trade-magazine article on copyediting

2/7

Visit to Texas A&M University Press  
Discussion: Exercises and Reading Due Today

**Main Reading Due:**
- “Overview” and “Parts of a Book,” in Chapter 1 of The Chicago Manual of Style, 17th edition, 2017 (available online through the Texas A&M library)
- Einsohn and Schwartz: Chapter 6 (“Capitalization and the treatment of names”)

**Recommended Browsing:**
- Chapter 2 (“Manuscript preparation, manuscript editing, and proofreading”) in The Chicago Manual of Style, 17th edition

2/14

Independent Study (because of American Association for the Advancement of Science Annual Meeting)

**Activity:**
- selected exercises from Büky, Erika, Marilyn Schwartz, and Amy Einsohn. The Copyeditor’s Workbook: Exercises and Tips for Honing Your Editorial Judgment. University of California Press, 2019 (available online through the Texas A&M University library); review of the corresponding answer keys

**Main Reading Due:**
- Science News Stylebook

2/21

Discussion: Exercise Due Today  
Discussion: Editing for the Specialist  
Discussion: How Journals Function/Editing Journal Articles
Discussion: Scientific Paper Edited by an Author’s Editor

Progress Reports: Project #1

Main Reading Due:
- Montagnes, Chapter 4 (“Editing for the Specialist”)
- Annotated scientific paper (http://www.authoraid.info/en/resources/details/648/)
- Example of scientific paper “educationally edited” by an author’s editor

Optional Reading:

Main Exercise Due:
- Editing for conformity with Science News style

2/28

Discussion: Project #1

7

Introduction: Project #2

Review of Exercises Due Today

Presentation/Discussion: Editing Materials by and for Non-Native Speakers of English

Guest Segment: “Visual Storytelling in Science Communications” (Frank Orrico, PhD, Global Director, Element Scientific Communications, Weber Shandwick)

Main Reading Due:
- Einsohn and Schwartz: Chapter 7 (“Numbers and numerals”), Chapter 11 (“References”), and “Checklist of editorial preferences”
- Annotated grant proposals

Main Exercises Due:
- Worksheets: Chapters 7 and 11 in Einsohn and Schwartz
- Exercise: parts of a scientific paper
- Exercise: substantively editing an imaginary abstract

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

3/6

Student Presentations: Recent Chapters and Articles of Interest

8

Presentation/Discussion: Editing Grant Proposals

Main Reading Due:
- Einsohn: Chapter 12 (“Front matter, back matter, and running heads”) and Chapter 13 (“Markup”)

Main Exercises Due:
- Editing material by non-native speakers of English
- (Note: The grade for your presentation counts as the grade for one exercise)

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

3/20

Discussion: Exercises and Reading for Today

9

Introduction: Final Project

Presentation/Discussion: Editing Conference Proceedings and Other Multi-Author Works

Discussion: Indexing—A Related Skill

Discussion of Plans: Project #2

In-Class Exercise: Reference Editing

Main Reading Due:
- Einsohn and Schwartz: Chapter 8 (“Quotations”) and Chapter 9 (“Abbreviations and symbols”)
• AMA Manual of Style (available online through the Texas A&M library): Chapter 19 (“Numbers and percentages”)

Main Exercises Due:
• Worksheets: Chapters 8 and 9 in Einsohn and Schwartz
• Exercise: editing numbers for consistency with AMA style

Recommended Self-Study:
• Selected other sections of the AMA Manual of Style
• Selected quizzes on the AMA Manual of Style (available online along with the manual; answer keys are provided)

3/27 Discussion: Editing Tables and Figures
10 Progress Reports: Project #2
Guest Segment or Field Trip

Main Reading Due:
• Einsohn and Schwartz: Chapter 10 (“Tables, graphs, and art”)
• Montagnes: Chapter 6 (“Illustrations”)
• AMA Manual of Style: Chapter 4 (“Visual presentation of data”)
  o Part 7. Put Your Best Figure Forward: Line Graphs and Scattergrams
  o Part 8. Bars and Pies Make Better Desserts Than Figures
  o Part 9. Bring Your Best to the Table
• Example: improving a table

Main Exercises Due:
• Worksheet: Chapter 10 in Einsohn and Schwartz

4/3 Discussion: Project #2
11 Discussion: Ethical Issues in Science Editing; Some Ethics-Related Scenarios
Presentation/Discussion: Basics of the Business Side; Aspects of Print Production
Presentation: Proofreading Tips and Techniques (courtesy of Susan Aiello, DVM)

Main Reading Due:
• Selected readings on editorial ethics

Main Exercise Due:
• Response to a scenario

Project #2 Due: Editing Material for Specialists
(For instructions, please see end of syllabus. Note: You are welcome to submit this project earlier than today. Projects will be reviewed in the order received.)

(4/10) Reading Day—No Classes

4/17 Discussion: Reading for Today
12 Progress Reports: Final Project
Guest Segment or Field Trip

Main Reading Due:
• Einsohn and Schwartz: Chapter 14 (“Grammar and Usage: Principles and Pitfalls”) and Chapter 15 (“Beyond Grammar”)

Main Exercise Due:
• Worksheet: Chapters 14 and 15 in Einsohn and Schwartz

4/24
Presentations: Final Project
Discussion: Final Project

13
Discussion: Final Project
Discussion: Career Niches in Science Editing and Related Realms
Discussion and Exercise: Editing Tests for Employment
Discussion: Interviews of Science Editors or Editees
Discussion: Editing and Proofreading Your Own Work

Main Reading Due:
• “Careers in Science Editing: An Overview to Use or Share” by Shauna Kanel and Barbara Gastel (Science Editor 2008; 31:18-22) 
• “Keys to Success on Copyediting Tests” by Elizabeth Whalen (CBE Views 1992; 15:51-5)
• “Satisfactions of Science Editing: Experienced Manuscript Editors Reflect” by Barbara Gastel (Science Editor 2011; 34:47-48)

Main Exercise Due:
• highlights: interview of a science editor or a scientist who has had work edited

Project #3 (final project): more science editing or a paper
(For instructions, please see end of syllabus.)

4/28
Presentations: Final Project
14
In-Class Exercise: Pitching Yourself as a Freelance Copyeditor
(redefined day)
Discussion: Some Organizations in Science Editing and Related Realms
Presentation/Discussion: Some Editorial Humor
Wrap-Up

Core Reading Due:
• Additional editorially related articles of potential interest (probably including some published this spring)
  (Note: Your final project is officially due today. However, if desired, you may submit it as late as Friday, May 1.)

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit http://disability.tamu.edu. Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

“An Aggie does not lie, cheat or steal, or tolerate those who do.” For additional information, please see http://aggiehonor.tamu.edu.
Projects: Science Editing

Project #1:
Editing Material for Nonspecialists

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 has substantial mechanical problems. (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. The copyediting should be light to medium. Do not rewrite the piece. (Note: The piece you choose should be about 1000 words. Before proceeding, please show it to the instructor for approval.)

(B) Copyedit the piece “10 Wild Edibles, You Should Know” (http://eattheplanet.org/archives/1868). As in Option A: (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. The copyediting should be light to medium. Do not rewrite the piece.

Project #2:
Editing Material for Specialists

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

(A) Find a scientific or technical piece that needs editing. This piece may be a scientific paper, technical report, grant proposal, thesis section, dissertation section, or book chapter. Edit the piece as an author’s editor would, and write a cover memo to the author. Provide the style sheet you used in editing the piece. Also supply, or provide a link to, any instructions (such as journal instructions to authors) with which the manuscript should comply. (Note: The piece you choose should be at least about 10 double-spaced pages. Before proceeding, please show it to the instructor for approval.)

(B) Edit a scientific manuscript available from the instructor. In doing so, you should serve as an author’s editor. Also write a cover memo to the author, provide the style sheet you used in editing the manuscript, and supply (or provide a link to) any instructions, such as journal instructions to authors, with which the manuscript should comply.

Project #3:
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 at least about 20 double-spaced pages. If you wish, the instructor can help you to find material to edit; in any case, the instructor should approve the material as suitable. Both edit the piece and write a cover memo to the author. Also provide the style sheet you used and any instructions such as journal instructions to authors.
(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
- explore an aspect of science editing not discussed 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 periodicals such as Science Editor and European Science Editing.

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 H:

Syllabi: Electives in Science and Technology Journalism
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, if applicable, 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. Some class activities will entail reading online; therefore please bring a laptop computer or the equivalent to class each week. Also, 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 class sessions.

The required book, which is being provided, is *Health Writer's Handbook*, 2nd edition, by Barbara Gastel (Ames, Iowa: Blackwell Publishing, 2005). Other readings will include articles on and examples of biomedical reporting. Core readings are noted on the schedule below, and other readings will be announced in class. In addition, you are asked to follow current biomedical reporting in various media and share pertinent items with classmates.

You are encouraged to meet with the instructor at least twice during the course for conferences on your writing. Typically, one conference should be before the middle of the semester 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:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Date</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>medical terminology exercise</td>
<td>9/6</td>
<td>5%</td>
</tr>
<tr>
<td>analysis of a medical news story</td>
<td>9/13</td>
<td>5%</td>
</tr>
<tr>
<td>story based on journal article</td>
<td>9/20</td>
<td>10%</td>
</tr>
<tr>
<td>story based on presentation</td>
<td>9/27</td>
<td>5%</td>
</tr>
<tr>
<td>oral report on journal article (#1)</td>
<td>10/4</td>
<td>5%</td>
</tr>
<tr>
<td>story based on interview</td>
<td>10/11</td>
<td>10%</td>
</tr>
<tr>
<td>oral report on journal article (#2)</td>
<td>10/18</td>
<td>5%</td>
</tr>
<tr>
<td>exercise on health-writing technique</td>
<td>10/25</td>
<td>5%</td>
</tr>
<tr>
<td>analysis of a biomedical feature article</td>
<td>11/1</td>
<td>5%</td>
</tr>
<tr>
<td>(near-final draft of major assignment)</td>
<td>11/15</td>
<td></td>
</tr>
<tr>
<td>constructive critique of classmate's draft</td>
<td>11/22</td>
<td>10%</td>
</tr>
<tr>
<td>major assignment</td>
<td>12/2</td>
<td>25%</td>
</tr>
<tr>
<td>class participation</td>
<td></td>
<td>10%</td>
</tr>
</tbody>
</table>
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 graded assignment (other than the final assignment) one session late without penalty. Please bring the requested number of copies to class. If you email the instructor your assignment by 9 p.m. the evening before it is due, she will make the copies.

Grading will be as follows:

- A 95-100 (highly professional)
- A 90-94 (approaching professional quality)
- B 85-89 (good overall)
- B 80-84 (fairly good)
- C 70-79 (marginal)
- D 60-69 (poor)
- F <60 (unacceptable)

For all assignments, both content and style will be considered. An average of 89.50 or above will earn a final grade of A, an average of 79.50 to 89.49 will earn a B, and so forth.

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 December 2.

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

**TENTATIVE SCHEDULE**

<table>
<thead>
<tr>
<th>Session/Date</th>
<th>Main Activities and Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 30</td>
<td>Introduction: The Participants and the Course</td>
</tr>
<tr>
<td><strong>Unit I: Introduction to Biomedical Reporting</strong></td>
<td>Discussion: The Scope of Biomedical Reporting</td>
</tr>
<tr>
<td></td>
<td>Introductory Thoughts: Health-Writing Technique</td>
</tr>
<tr>
<td></td>
<td>Presentation/Discussion: Presenting Medical Content in Plain Language</td>
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<tr>
<td></td>
<td>(Exercise if Time Permits: A Medical Mystery)</td>
</tr>
</tbody>
</table>

| Sep 6 |
| **Unit I: Introduction to Biomedical Reporting**  |
| Discussion: Some Elements of Medical Terminology |
| Discussion: Who’s Who—Some Health Professions |
| Introduction: Sources of Story Ideas and Information |
| Overview: Medical Writing for Magazines—Where and How |
| Browsing: Some Examples of Biomedical Writing in Magazines |

**Core Reading Due:**
- “Basic Elements of Medical Terms” (handout)

**Browsing Due:**
- “Healthcare Occupations” (http://www.bls.gov/ooh/healthcare/)

**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.

Written Exercise Due: medical terminology exercise

Unit II: Sources of Story Ideas and Information

3
Discussion: Writing Assignment Due Today
Presentation: The Structure of Scientific Papers: An Overview for Readers and Writers
Demo: In the EQUATOR Network: Guidelines Useful for Researchers and Reporters
Workshop: Some Major Medical Journals; News Sections of Journals

Core Reading Due:
• text: Chapter 2 (“Books and Periodicals”)

Optional Reading:
(Note: This book can be accessed electronically from the Texas A&M library. Also, copies can be borrowed from the instructor.)

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 read for or discussed in class. 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. Also supply a brief (approximately 100- to 200-word) evaluation of the story. Be ready to discuss the story in class.

4
Discussion: Government, Associations, and Other Institutions as Sources
Discussion: Exercises and Writing Assignment Due Today
In Class-Exercise: Reviewing the Programs of the 2019 American Association for the Advancement of Science (AAAS) Annual Meeting and of Some Conferences in Biomedical Science, Veterinary and Human Medicine, and Medical Communication

Discussion: Some Conference Coverage
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.
(Notes: [1] Some resources listed in exercise 1 no longer exist. Therefore for this exercise you should search only Associations Unlimited, which can be accessed online through the Texas A&M library. [2] The URLs listed in exercise 2 have changed. To find links to the websites of US Department of Health and Human Services agencies, please go to https://www.hhs.gov/about/agencies/hhs-agencies-and-offices/index.html. To find links to the websites of state health departments, please go to https://healthfinder.gov/FindServices/SearchContext.aspx?show=1&topic=820.
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.
(Notes: If you are in a laboratory doing potentially newsworthy research, you may write a news story based on some of the published research from that laboratory.)

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
Tips: Giving Oral Presentations
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. (Note: The CAPHIS Top 100 is now the MLA Top Health Websites.) 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 or watch one online. 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

Discussion: Evaluating Medical Information—Some Basics
Discussion: Exercises Due Today
Introduction: The Major Writing Assignment for This Course
Progress Reports: Writing Assignment Due Next Week
Oral Reports: Journal Articles on Medical Journalism
Core Reading Due:
- text: Chapter 6 (“Evaluating Information”)
- Begley, Sharon. Sharon Begley’s brief guide to writing medical news. The Open Notebook, 2 February 2016, available at
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.

7
Oct 11
Discussion: Reading for Today
Discussion: Exercises Due Today
Workshop: Writing Assignment for Today
Workshop (if time permits): Some Other 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
Oct 18
Discussion: Reading Due Today
Introduction: Health-Writing Style and Genres
Discussion: Plans for Major Writing Assignment
Oral Reports: Journal Articles on Medical Journalism
Core Reading Due:
• one or more stories dealing with statistics and risk
• a journal article on medical journalism (details to be provided in class)
Optional Writing Due:
If you wish, you can revise your interview story on the basis of feedback received during the workshop last week. If you do so, the revised version, rather than the one submitted initially, will be graded.

9
Oct 25
Discussion: Exercises Due Today
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.
(Note: The style guide to look at for exercise 2 on page 201 is posted at http://ncdj.org/style-guide/.)

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 1
Discussion: Biomedical Essays, Columns, Blog Posts, and Book Reviews
Progress Reports: Major Writing Assignment
Discussion: Exercises and Writing Assignment Due Today
Some Highlights of ScienceWriters2019

Core Reading Due:
• text: pp. 126, 136-138 ("Investigative and Depth Reporting"), p. 143 ("Other Article Genres"), pp. 143-145 ("Books")

• excerpts from The Science Writers' Investigative Reporting Handbook by Liza Gross (Kensington, CA: Watchdog Press, 2018)

• some investigative stories on medical topics

• some biomedical essays, columns, blog posts, and book reviews

Exercises Due:
Do exercise 2 on page 145 for articles 8-3 and 8-4. You need not hand in your answers, but you should be ready to discuss them in class.

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.

11
Discussion: Biomedical Reporting in the Broadcast Media

Nov 8
Discussion: Biomedical Reporting on the Web
Progress Reports: Major Writing Assignment
Viewing (or Listening) and Discussion: Some Broadcast Biomedical Reporting

Core Reading Due:
• text: Chapter 9 ("Medical Reporting for the Electronic Media" by Tom Linden)


• Thacker, Paul D. Bad medicine. Columbia Journalism Review 2015;March/April:20-21.

• Rubin, Rita. Navigating the minefields of medicine and journalism. JAMA 2015;314:545-547.
• some radio and television segments

Writing Due: none (please be working on your major writing assignment)

Unit V: Some Key Issues and Areas

12
Discussion: Covering Key Realms
Nov 15
Discussion: Ethical Issues
In-Class Exercises: Selected Exercises from Pages 219, 265-266, and 280
Discussion: Class Members' Experience Drafting the Final Project

Core Reading Due:
• text: Chapter 13 ("Covering Key Realms")
• selected items from the Association of Health Care Journalists
• Moynihan, Roy. Tipsheet for reporting on drugs, devices and medical technologies.
• text: Chapter 12 ("Ethical and Legal Issues")

Writing Due: near-final draft of major assignment
As your major assignment, 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.
(3) Using knowledge and skills obtained in this course, prepare a scientific paper on research that you have done. The paper should be suitable for journal submission and should run at least 2000 words.
(4) Using knowledge and skills obtained in this course, prepare a chapter of your thesis or dissertation. The chapter should run at least 2000 words.
Note: This draft will not be graded, but it must be submitted on time, and it must be complete. For each day that the draft is late or incomplete, 10 points will be deducted from the grade on the final version of the assignment.

13
Workshop: Writing Assignment Due Today
Nov 22
Discussion: Award Winners and Awards
Other Items to Be Announced (may include discussions, either in person or by distance media, with one or more people who do biomedical reporting)

Core Reading Due:
• text: Chapter 11 ("Award Winners and Awards")
• some examples of award-winning biomedical reporting

Writing Due: constructive critique of classmate’s near-final draft
Prepare a constructive critique of the near-final draft of a classmate’s major assignment. The critique should both note strengths and suggest improvements. Please submit
Unit VI: Concluding Items

14 Dec 2 Discussion: Careers, Professional Organizations, and Educational Opportunities
In-Class Exercises: Selected Exercises from Pages 303, 304, 311-312, and 324
(Monday) Discussion: Final Project Wrap-Up

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

Writing Due: major assignment

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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. 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).
VIBS 664.600

**Risk and Crisis Reporting**

Spring 2020

Wednesdays, 8:45–11:30 a.m.

VIDI 208

This course is intended mainly to increase your knowledge and skill regarding the reporting of environmental, health, and other risks and crises. More specifically, goals of the course include increasing

- your familiarity with concepts and issues related to risk and crisis reporting
- your skill in reporting on risks and 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

Like other courses given through the science journalism graduate program, this course also is 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 are pursued largely through classroom activities, readings, and writing assignments. The course has a seminar format; classroom activities include discussions of readings, presentations by class members, guest segments in person or by distance media, and workshops on class members’ writing. Because much of your learning will depend on your participation, you are expected to attend class regularly; only in exceptional circumstances should more than 2 sessions be missed.

The textbook for this course is Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks, 6th edition, by Regina E. Lundgren and Andrea H. McMakin (IEEE Press and Wiley, 2018). This book can be accessed electronically through the Texas A&M University library, and copies are available from booksellers. Additional readings, such as book chapters and journal articles, also will be assigned. Some of these readings are listed on the course schedule, and others 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 a set of chapters or articles 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. Except when otherwise specified, please bring copies for the instructor, your classmates, and yourself. Copies for your classmates and yourself can be single-spaced. If you email the
instructor your assignment by 9 p.m. the evening before it is due, she will make the copies. For ease of identification, please begin the subject line of all email about this course with “VIBS 664.”

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.

Students are expected to meet individually with the instructor for conferences on their work. One conference should be before spring break and the other after. Additional conferences are readily available on request.

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 enjoyable are appreciated at any time.

**TENTATIVE SCHEDULE**

<table>
<thead>
<tr>
<th>Session/Date</th>
<th>Main Activities and Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Jan 15</td>
<td>Introductions: The Participants and the Course</td>
</tr>
<tr>
<td></td>
<td>Highlights: Some Chapters on Basics of Risk and Crisis Communication</td>
</tr>
<tr>
<td></td>
<td>If Time Permits: In-Class Writing Exercise</td>
</tr>
<tr>
<td>2 Jan 22</td>
<td>Discussion: Reading for Today</td>
</tr>
<tr>
<td></td>
<td>Workshop: Writing for Today</td>
</tr>
<tr>
<td></td>
<td><strong>Core Reading Due:</strong> “Introduction” and “Understanding Risk Communication” (<em>Risk Communication</em> chapters 1-6)</td>
</tr>
<tr>
<td></td>
<td><strong>Writing Due (brief assignment #1)</strong>: Please do one of the following. Whichever option you choose, the assignment should run about 500 words. (1) Identify a risk-communication situation in which you were involved, either as a provider of risk information or as a recipient. Briefly describe this situation and the risk communication therein. Drawing at least partly on the reading for today, identify strengths, weaknesses, or both of the risk communication in this situation. (2) In the reading due today, identify 5 to 10 points that can 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.</td>
</tr>
<tr>
<td></td>
<td><strong>Journal Entries (due each week):</strong> Throughout the first 10 weeks of the course, please keep a journal on instances you observe of risk or crisis communication in the popular media or elsewhere. The journal entries should be based on instances that you encounter in daily life or routine media consumption; in general, they should not be based on searches for examples of risk communication. The journal may be either on paper or electronic. Each week, it should include at least 2 entries, for a total of at least 100 words. Each entry should clearly identify and describe the observed communication and 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 1 entry from the week.</td>
</tr>
</tbody>
</table>
Also, at least 3 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.

3 Discussion: Reading for Today
Jan 29 Workshop: Writing for Today
Core Reading Due: “Planning the Risk Communication Effort” (*Risk Communication* chapters 7-12)

**Writing Due (brief assignment #2)**

Please do one of the following. Whichever option you choose, the assignment should run about 500 words.

1. In the program for the 2020 American Association for the Advancement of Science (AAAS) annual meeting ([https://aaas.confex.com/aaas/2020/meetingapp.cgi/](https://aaas.confex.com/aaas/2020/meetingapp.cgi/)) identify at least 10 sessions that relate to risk or crisis or the communication thereof. Of these sessions, identify at least 3 that you would like to attend; for each, say why you wish to attend it and what you would hope to gain.

2. In the reading due today, identify 5 to 10 points that can 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.

4 Discussion: Textbook Reading for Today
Feb 5 Introduction: Student-Presentation Assignment
Workshop: Writing for Today
Discussion: Some Relevant Work by Winners of 2019 AAAS Kavli Science Journalism Awards (to be presented at the 2019 AAAS meeting)

**Core Reading Due:**

- “Putting Risk Communication into Action,” Part 1 (*Risk Communication* chapters 13-16)

**Writing Due (brief assignment #3)**

Please do one of the following. Whichever option you choose, the assignment should run about 500 words.

1. Identify an item intended to present risk-related information to a general audience. Possibilities include fact sheets, patient-information handouts, brochures, infographics, videos, webpages, and items in
social media. Either bring a copy of the item to class or bring the URL, so others can see the item. Describe the item and note its strengths and weaknesses, especially in light of guidelines presented in the textbook. (2) Read “Hostile Waters,” “The Plague Years,” and “The Impossibly Cute Pika’s Survival May Say Something About Our Future.” Then identify strengths of the content and crafting of each. Focus especially on aspects relating to risk and crisis communication.

5 Discussion: Textbook Reading for Today
Feb 12 Discussion: Additional Relevant Work by Winners of 2019 AAAS Kavli Science Journalism Awards (to be presented at the 2020 AAAS meeting)
Viewing and Discussion: A Video Segment Winning a Previous AAAS Kavli Award

Core Reading (and Viewing) Due:
- “Putting Risk Communication into Action,” Part 2 (Risk Communication chapters 17-20)
- “Rare-Plant Hunters Race Against Time to Save At-Risk Species” (https://www.sciencenewsforstudents.org/article/rare-plant-hunters-race-against-time-save-risk-species)

Writing Due: none

6 Discussion: Some AAAS Meeting Highlights Relating to Risks and Crises and Their Communication
Feb 19 Discussion: Textbook Reading for Today
Progress Reports: Presentations
Workshop: Writing Assignment for Today

Core Reading Due: “Evaluation of Risk Communication Efforts” (Risk Communication chapter 21)

Writing Due (brief assignment #4)
Please do one of the following. Whichever option you choose, the assignment should run about 500 words. (1) If you attended the AAAS meeting, write a news story about a session you attended on a risk or crisis or its communication. This story should be in inverted pyramid format and should include quotes. Please specify the wire service, newspaper, website, or other venue for which the story is intended. (2) In chapters 13-21, identify 5 to 10 points that can 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.


• some stories by Naveena Sadasivam:
  o “Captured by Coal” (https://grist.org/series/texas-coal-railroad-commission-san-miguel-alcoa-luminant/)
  o “Too Big to Fine, Too Small to Fight Back” (https://www.texasobserver.org/too-big-to-fine-too-small-to-fight-back/)

**Writing Due (brief assignment #5)**

Please do one of the following. Whichever option you choose, the assignment should run about 500 words. (1) Write a review of the textbook, for a venue of your choice. The review should both describe and evaluate the book. An article on writing book reviews will be provided. (2) In chapters 22-24, identify 5 to 10 points that can 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.

---

8

Mar 4

Introduction: Final Project

Discussion: Reading for the Day

**Core Reading Due:** Some Case Studies

**Writing Due:** none

**Instructions for Presentations on Sets of Chapters or Articles**

In consultation with the instructor, identify about 3 to 5 chapters or articles on an aspect of risk communication or crisis communication that interests you. Then prepare an approximately 15-minute presentation that shares with your classmates the highlights of the readings. Provide a handout that classmates can consult in the future.

---

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

9

Mar 18

Workshop: Writing for Today

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

Prepare 5 multiple-choice questions and 2 essay questions for an examination based on the book *Risk Communication*.

- In total, the multiple-choice questions should draw on material from at least 5 chapters. Each question should have 4 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 2 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. Accompany each question with 1 to 3 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).

10 Guest Session by Elina (Ellie) Tachkova, PhD Student, Department of Communication
Mar 25 Progress Reports: Final Project
Discussion: Reading for Today

Core Reading Due:
- to be announced; may include items published or honored in early 2020

Writing Due: none

11 Guest Presentation by Christopher M. Meyer, Associate Vice President for Safety and Security, Texas A&M University
Apr 1 Progress Reports: Final Project
Discussion: Reading for Today
Workshop: Writing Due Today

Core Reading Due:

Writing Due (brief assignment #6)
Please do one of the following. Whichever option you choose, the assignment should run about 500 words. (1) Using guidance provided in the textbook and the reading for today, write a 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. (2) Identify a newspaper or magazine story about a risk. Using material in this course, identify its strengths and limitations. Accompany the assignment with a copy of the story you evaluated or with a link to the story.

12 Presentations on Final Project
Apr 8 Progress Reports: Final Project
Other Activities to Be Announced (may include a guest presentation)

13
Presentations on Final Project

Apr 15
Progress Reports: Final Project

Other Activities to Be Announced (if desired, may include in-class writing time or revising time for the writing due next week)

14
Guest Segment by Matthew Minson, MD, Medical Director, Superior Energy Services Inc., and Senior Advisor for Health Affairs, Texas A&M Engineering Extension Service National Emergency Response and Rescue Training Center

April 22
Wrap-Up

Writing Due: case study, feature article, or alternative assignment

Please do one of the following. Whichever option you choose, your project should run 2000 to 3000 words (about 8 to 12 double-spaced pages). 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. For the case study, draw on various types of information sources. 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 article, draw on information sources of various 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 or crisis communication. If you wish to take this option, please discuss your plans with the instructor, to ensure that your paper will fulfill the assignment.

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit http://disability.tamu.edu. Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

"An Aggie does not lie, cheat or steal, or tolerate those who do.” For additional information, please visit: http://aggiehonor.tamu.edu.
Appendix I:

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 writing or editing a substantial amount of material about science, technology, or medicine. The supervisor of the internship should be experienced and expert in the communication of science, technology, or medicine 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 email 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).

(updated May 2018)
Appendix J:

Thesis Titles and Internship Sites
Thesis Titles and Internship Sites:  
MS Students in Science and Technology Journalism, Texas A&M University, 2013 and Later Entry

**Thesis Track**

<table>
<thead>
<tr>
<th>Entry</th>
<th>Name of Student¹</th>
<th>Thesis Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2013</td>
<td>Sara Carney</td>
<td>The Cosmos and the Earth: Content and Quality of Environmental Risk Communication in <em>Cosmos</em> (1980) and <em>Cosmos</em> (2014)</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>Roberto Molar</td>
<td>Climate Change and Global Warming in the Media: A Content Analysis of the Mexican Newspaper <em>El Universal</em></td>
</tr>
<tr>
<td>Spring 2018</td>
<td>Ashli Villarreal</td>
<td>(pending; will regard social media and GMOs)</td>
</tr>
<tr>
<td>Spring 2019</td>
<td>Courtney Adams</td>
<td>(pending)</td>
</tr>
</tbody>
</table>

*part-time student

**Internship Track**

<table>
<thead>
<tr>
<th>Entry</th>
<th>Name of Student¹</th>
<th>Internship Site²,³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2013</td>
<td>Gina Wadas</td>
<td>Texas A&amp;M University Press</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>Bryan Demapan</td>
<td>Carnegie Science Center, Pittsburgh, PA</td>
</tr>
<tr>
<td></td>
<td>Omar Fabian</td>
<td>Materials Research Society, Warrendale, PA</td>
</tr>
<tr>
<td></td>
<td>Iveliz Martel</td>
<td>Johns Hopkins Medicine, Baltimore, MD</td>
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<tr>
<td></td>
<td>Claire Ronner (Waters)</td>
<td>National Instruments, Austin, TX</td>
</tr>
<tr>
<td></td>
<td>Katelyn Werner (Le)</td>
<td>MD Anderson Cancer Center, Houston, TX</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>Laura Gerik</td>
<td>Methodist DeBakey Heart &amp; Vascular Center, Houston, TX</td>
</tr>
<tr>
<td>Spring 2016</td>
<td>Leah Poffenberger</td>
<td>Fermi National Accelerator Laboratory (Fermilab), Batavia, IL</td>
</tr>
<tr>
<td>Summer 2017</td>
<td>Catherine Jackson</td>
<td>Microsoft, Redmond, WA</td>
</tr>
<tr>
<td>Fall 2017</td>
<td>Chantal Cough-Schulze</td>
<td>Texas Water Resources Institute</td>
</tr>
<tr>
<td></td>
<td>Alexandra Hoskins (Salazar)</td>
<td>Texas Water Resources Institute</td>
</tr>
<tr>
<td></td>
<td>Callie Rainosek</td>
<td>Texas Biomedical Research Institute, San Antonio, TX</td>
</tr>
<tr>
<td>Spring 2018</td>
<td>Vandana Suresh</td>
<td>Johns Hopkins Medicine, Baltimore, MD</td>
</tr>
<tr>
<td>Fall 2018</td>
<td>Corley-Ann Parker</td>
<td>Texas Sea Grant</td>
</tr>
<tr>
<td></td>
<td>Madeline Patton</td>
<td>Texas A&amp;M College of Veterinary Medicine Communications</td>
</tr>
<tr>
<td></td>
<td>Emily Seyl</td>
<td>Texas A&amp;M University Press</td>
</tr>
</tbody>
</table>

¹If the surname has changed since program entry, the current surname is in parentheses.
²Geographic locations are specified for internships occurring other than in College Station, Texas.
³Only internships done for academic credit as a degree requirement are listed. Non-credit internships, and internships done as electives by students in the thesis track, thus are not included.
⁴Students entering in Fall 2019 or later have not yet chosen tracks.
Appendix K:

Non-STJR Courses in STJR Degree Plans
Non-STJR Courses on Degree Plans of STJR Students Entering Fall 2012–Spring 2019

As of fall 2019, the 25 students who first enrolled in the Texas A&M University MS program in science and technology journalism (STJR) during Fall 2012 through Spring 2019 had filed degree plans containing the non-STJR courses listed below. Because students sometimes amend their degree plans, the distribution of courses actually taken may differ slightly from that indicated below.

In the list below, the courses are divided by general subject area. The course titles are abbreviated as they were in the degree plans; SPTP stands for Special Topics. Numbers of students are indicated for courses taken by more than 1 student.

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Number of STJR Students (if &gt;1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication/English/Journalism</td>
<td></td>
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<tr>
<td>COMM 370</td>
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<td>Health Communication</td>
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<td>COMM 375</td>
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<td>Media Audiences</td>
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<td>COMM 638</td>
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<td>Crisis Communication</td>
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<td>ENGL 386</td>
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<td>Creative Nonfiction</td>
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Appendix L

Graduate Committees of STJR Students,
Fall 2012 and Later Entry
Graduate Committees: MS Students in Science and Technology Journalism, Texas A&M University, Fall 2012 and Later Entry

<table>
<thead>
<tr>
<th>Entry</th>
<th>Student</th>
<th>Chair</th>
<th>Other CVM Member</th>
<th>Outside Member</th>
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<tbody>
<tr>
<td>Fall 2012</td>
<td>Jessica Scarfuto</td>
<td>Barbara Gastel</td>
<td>Leon Russell</td>
<td>Anthony Stranges (History)</td>
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<tr>
<td></td>
<td>Mary Beth Schaefer</td>
<td>Barbara Gastel</td>
<td>Renata Ivanek</td>
<td>Valerie Balester (English)</td>
</tr>
<tr>
<td></td>
<td>Kelly Tucker</td>
<td>Barbara Gastel</td>
<td>Leon Russell</td>
<td>Christopher Beaudoin (Communication)</td>
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<tr>
<td></td>
<td>Christina Wilcox</td>
<td>Barbara Gastel</td>
<td>Michael Golding</td>
<td>Edward Walraven (Liberal Arts: Journalism)</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>Sara Carney</td>
<td>Barbara Gastel</td>
<td>Kevin Curley</td>
<td>Valerie Balester</td>
</tr>
<tr>
<td></td>
<td>Gina Wadas</td>
<td>Barbara Gastel</td>
<td>Leon Russell</td>
<td>Howard Eilers (Visualization)</td>
</tr>
<tr>
<td>Spr 2014</td>
<td>Roberto Molar</td>
<td>Barbara Gastel</td>
<td>Kevin Curley (Co-Chair)</td>
<td>Gunnar Schade (Atmospheric Sciences)</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>Bryan Demapan</td>
<td>Barbara Gastel</td>
<td>Leon Russell</td>
<td>Kim-Vy Tran (Physics)</td>
</tr>
<tr>
<td></td>
<td>Omar Fabian</td>
<td>Barbara Gastel</td>
<td>Kevin Curley</td>
<td>Howard Eilers</td>
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<tr>
<td></td>
<td>Iveliz Martel</td>
<td>Barbara Gastel</td>
<td>Kevin Curley</td>
<td>Arnold Vedlitz (Public Policy)</td>
</tr>
<tr>
<td></td>
<td>Claire Ronner (Waters)</td>
<td>Barbara Gastel</td>
<td>Leon Russell</td>
<td>Cynthia Riccio (Educational Psychology)</td>
</tr>
<tr>
<td></td>
<td>Katelyn Werner (Le)</td>
<td>Barbara Gastel</td>
<td>Kevin Cummings</td>
<td>Valerie Balester</td>
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<tr>
<td>Spr 2015</td>
<td>Laura Gerik</td>
<td>Barbara Gastel</td>
<td>Kevin Curley</td>
<td>Natalie Johnson (Environmental Health)</td>
</tr>
<tr>
<td>Fall 2015</td>
<td>Gwendolyn Inocencio</td>
<td>Barbara Gastel</td>
<td>Yasha Hartberg</td>
<td>Valerie Balester (Communication)</td>
</tr>
<tr>
<td>Spr 2016</td>
<td>Leah Poffenberger</td>
<td>Barbara Gastel</td>
<td>Kevin Curley</td>
<td>Daikwon Han (Epidemiology &amp; Biostatistics)</td>
</tr>
<tr>
<td>Sum 2017</td>
<td>Catherine Jackson</td>
<td>Barbara Gastel</td>
<td>Yasha Hartberg</td>
<td>Valerie Balester</td>
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<tr>
<td>Fall 2017</td>
<td>Chantal Cough-Schulze</td>
<td>Barbara Gastel</td>
<td>Yasha Hartberg</td>
<td>Lisa Campbell (Oceanography)</td>
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<tr>
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<td>Alexandra Hoskins</td>
<td>Barbara Gastel</td>
<td>Yasha Hartberg</td>
<td>Thomas Tai-Seale (Health Promotion and Community Health)</td>
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<tr>
<td></td>
<td>(Salazar)</td>
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<tr>
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<td>Callie Rainosek</td>
<td>Barbara Gastel</td>
<td>Yasha Hartberg</td>
<td>Tobin Redwine (Agricultural Leadership, Education &amp; Communications)</td>
</tr>
<tr>
<td>Spr 2018</td>
<td>Vandana Suresh</td>
<td>Barbara Gastel</td>
<td>Yasha Hartberg</td>
<td>Farida Sohrabji (Medical Neuroscience)</td>
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<td>Ashli Villarreal</td>
<td>Barbara Gastel</td>
<td>Yasha Hartberg</td>
<td>Holli Leggette (Agricultural Leadership, Education &amp; Communications)</td>
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<tr>
<td>Fall 2018</td>
<td>Corley-Ann Parker</td>
<td>Barbara Gastel</td>
<td>Yasha Hartberg</td>
<td>Bernard Appiah (Public Health)</td>
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<td>Madeline Patton</td>
<td>Barbara Gastel</td>
<td>Yasha Hartberg</td>
<td>Christine Tisone (Health and Kinesiology)</td>
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<td>Emily Seyl</td>
<td>Barbara Gastel</td>
<td>C. Jane Welsh</td>
<td>Gerald North (Atmospheric Sciences)</td>
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<tr>
<td>Spr 2019</td>
<td>Courtney Adams</td>
<td>Barbara Gastel</td>
<td>Kevin Curley</td>
<td>Howard Eilers</td>
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<td></td>
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<td></td>
<td>Yasha Hartberg</td>
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<tr>
<td>Fall 2019 (ctes pending)</td>
<td>Justin Agan</td>
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<tr>
<td></td>
<td>Sarah Allen</td>
<td></td>
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<td></td>
<td>Rachel Cook</td>
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<td></td>
<td>Ava English</td>
<td></td>
<td></td>
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<td>Danielle Gillen</td>
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<td>Margaret Preigh</td>
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<td>Jana Rosario</td>
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<td>Emma Stogsdill</td>
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1 Each student’s committee is to include a chair, who is to be from the College of Veterinary Medicine and Biomedical Sciences (CVM); another member from the CVM; and a member from elsewhere at Texas A&M University. It also may include additional members. 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 M:

Follow-Up: STJR Students, 2013 and Later Entry
Follow-Up: Students with 2013 and Later Entry,
Texas A&M University MS Program in Science and Technology Journalism (STJR)\(^1\)

<table>
<thead>
<tr>
<th>Entry</th>
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<th>Current Employment</th>
<th>Comments</th>
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<tr>
<td>Fall 2013</td>
<td>Sara Carney (T)(^3)</td>
<td>Spring 2016</td>
<td>Communications Manager, Texas Sea Grant</td>
<td>Other jobs since graduation and during latter part of thesis work: communications specialist at Texas A&amp;M College of Veterinary Medicine &amp; Biomedical Sciences; communications specialist at Augusta University, Georgia</td>
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<tr>
<td>Fall 2014</td>
<td>Bryan Demapan</td>
<td>Spring 2016</td>
<td>(currently working part-time jobs while deciding on next direction)</td>
<td>Earlier job after graduation: Digital Dome Operator and Planetarium Presenter, Danville Science Center, Danville, Virginia</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>Omar Fabian (P)(^4)</td>
<td>Fall 2016</td>
<td>Scientific Script Writer and Academic Editor, Research Square/American Journal Experts</td>
<td>Also employed by Research Square/ American Journal Experts while in the STJR program</td>
</tr>
<tr>
<td></td>
<td>Iveliz Martel</td>
<td>Spring 2016</td>
<td>Freelance writer, editor, and translator in Chile</td>
<td>Attended the STJR through the Fulbright program</td>
</tr>
<tr>
<td></td>
<td>Claire Ronner (Waters)</td>
<td>Fall 2015</td>
<td>Semiconductor Content Manager, National Instruments</td>
<td>Interned in technical writing at National Instruments and was recruited for employment; has had multiple promotions</td>
</tr>
<tr>
<td></td>
<td>Katelyn Werner (Le)</td>
<td>Spring 2016</td>
<td>Medical Writer, Leidos Biomedical Research, Inc. (contractor to NIH)</td>
<td>Interned for <em>DeBakey Cardiovascular Journal</em> and was recruited for employment</td>
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<tr>
<td>Spring 2015</td>
<td>Laura Gerik</td>
<td>Fall 2016</td>
<td>Editor, DeBakey Cardiovascular Education, and Assistant Managing Editor, <em>DeBakey Cardiovascular Journal</em>, Houston Methodist Hospital</td>
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<tr>
<td>Fall 2015</td>
<td>Gwendolyn Inocencio (T) (P)</td>
<td>pending</td>
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<tr>
<td>Spring 2016</td>
<td>Leah Poffenberger</td>
<td>Fall 2017</td>
<td>Staff Science Writer, American Physical Society</td>
<td>Interned at Microsoft and was recruited for employment</td>
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<tr>
<td>Summer 2017</td>
<td>Catherine Jackson</td>
<td>Fall 2018</td>
<td>Writer, Microsoft</td>
<td>Interned at Texas Water Resources Institute and was recruited for employment</td>
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<tr>
<td>Fall 2017</td>
<td>Chantal Cough-Schulze</td>
<td>Fall 2019</td>
<td>Communications Specialist, Texas Water Resources Institute</td>
<td>Interned at Texas Water Resources Institute and was recruited for employment</td>
</tr>
<tr>
<td>Name</td>
<td>Year</td>
<td>Role</td>
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<tr>
<td>Alexandra Hoskins (Salazar)</td>
<td>Fall 2018</td>
<td>Communications Specialist, Texas A&amp;M College of Engineering</td>
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<tr>
<td>Callie Rainosek</td>
<td>Spring 2019</td>
<td>PhD Student (and Teaching Assistant), Communication Department, Texas A&amp;M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring 2018 Vandana Suresh</td>
<td>Fall 2019</td>
<td>Senior Science Writer, Texas A&amp;M College of Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ashli Villarreal (T)</td>
<td>pending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall 2018 Corley-Ann Parker</td>
<td>pending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Madeline Patton</td>
<td>pending</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Emily Seyl (P)</td>
<td>pending</td>
<td>Acquisitions editor for the natural environment, Texas A&amp;M University Press; entered program while editorial assistant at Texas A&amp;M University Press</td>
<td></td>
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<tr>
<td>Spring 2019 Courtney Adams (T)</td>
<td>pending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall 2019 Justin Agan</td>
<td>pending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sarah Allen</td>
<td>pending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rachel Cook</td>
<td>pending</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ava English</td>
<td>pending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danielle Gillen (P)</td>
<td>pending</td>
<td>Employed locally at Fujifilm Diosynth Biotechnologies</td>
<td></td>
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<tr>
<td>Margaret Preigh</td>
<td>pending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jennifer Reiley (P)</td>
<td>pending</td>
<td>Communication specialist, Texas A&amp;M College of Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jana Rosario (P)</td>
<td>pending</td>
<td>Veterinary technician, Texas A&amp;M University Veterinary Medical Teaching Hospital</td>
<td></td>
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</tr>
<tr>
<td>Emma Stogsdill</td>
<td>pending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring 2020 Melissa Glenn (P)</td>
<td>pending</td>
<td>Veterinary technician, Texas A&amp;M University Veterinary Medical Teaching Hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>September Martin</td>
<td>pending</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

1Follow-up information was obtained mainly by email inquiry in January 2020. Online information about graduates also was consulted.
2If the surname has changed since program entry, the current surname is in parentheses.
3(T) designates a student in the thesis track, rather than the non-thesis (internship) track.
4(P) indicates a part-time student.
5Students entering in Fall 2019 or later have not yet declared tracks.
Appendix N:

Curricula Vitae: Core STJR Faculty
BARBARA GASTEL

Mailing Address: Texas A&M University
Department of Veterinary Integrative Biosciences
4458 TAMU
College Station, TX 77843-4458 USA

Telephone Numbers: (979) 845-6887 (office)
(979) 777-0151 (mobile)
Fax: (979) 847-8981
Email: b-gastel@tamu.edu

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

Honors
Texas A&M University Bush Excellence Award for Faculty in Public Service, 2015
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)
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 and Related Posts

2017-2019 Scholarly Communications Faculty Advocate, Texas A&M University (via Texas A&M University Libraries)
2013-2018 INASP Associate, AuthorAID (international project to help researchers in developing countries to write about and publish their work, www.authoraid.info)
2007-2013 Knowledge Community Editor, AuthorAID
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)
1987-1990 Book Review Editor, American Journal of Preventive Medicine

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 Sciences Undergraduate Program
- Biomedical Explorations Through Narrative
- Biomedical Writing

College of Veterinary Medicine & Biomedical Sciences
- Methods of Specialized Journalism
- Thailand Case Studies in Global One Health (co-instructor)

Texas A&M Health Science Center College of Medicine Department of Humanities in Medicine
- Cultural Diversity in Medicine
- Medical Essays: Current and Classic
- 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

Selected Recent Workshops and Courses for International Researchers


AuthorAID Workshop on Teaching Research Communication: Colombo, Sri Lanka, 27-31 May 2013

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

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

Case-Based Workshop: Communicating Research and Mentoring Others in Doing So: From Principles to Practice: Dhaka, Bangladesh, 20-24 November 2016
Health Reporting Workshop for Health Professionals and Journalists, Accra, Ghana, 21-22 November 2011 (co-facilitator)


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

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

Scientific-Communication Capacity-Building Workshop, Nairobi, Kenya, 7-8 May 2015

Scientific-Communication Workshop, Havana, Cuba, 13-14 October 2014

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

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 of more than 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. AuthorAID and editors: collaborating to assist authors in developing countries. *Science Editor* 38: 103-105, 2015.


**Selected Other Pieces for Professional Readerships**

Various graduate-student coauthors, Gastel B. [Reports on science-communication-related highlights of American Association for the Advancement of Science annual meetings.] *Science Editor*, annually, 2011-; list available on request.


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/.


Gastel B. Science and the media: a view from across the Atlantic. *Earth & Life Science Editing* (24): 3-


(Also many reports in *Science Editor* on sessions at Council of Science Editors annual meetings and American Association for the Advancement of Science annual meetings)

**Selected Articles for the Public**


*Editorials, Commentary, Blog Posts, etc.*


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.


Chapters


**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.


*Philip Morrison's Long Look at the Literature: His Reviews of a Hundred Memorable Science Books*. 


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

### Professional and Service Activity (Selected)

#### Intramural

**Texas A&M University**

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<tr>
<th>Year</th>
<th>Role</th>
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<tbody>
<tr>
<td>2019</td>
<td>Member, Search Committee, Texas A&amp;M University Press Director</td>
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<tr>
<td>2006-</td>
<td>Member, W and C (Writing and Communication) Course Advisory Committee</td>
</tr>
<tr>
<td>1990-98</td>
<td>Member, Texas A&amp;M University Press Faculty Advisory Committee</td>
</tr>
<tr>
<td>1992-97</td>
<td>Member, Texas A&amp;M University Press Faculty Advisory Committee (2002-2006)</td>
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<td>2013-16</td>
<td>Member, Faculty Development Leave Committee</td>
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**College of Veterinary Medicine and Biomedical Sciences**

<table>
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<th>Year</th>
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<tr>
<td>2007-</td>
<td>Member, Communications Advisory Team</td>
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<tr>
<td>2018-19</td>
<td>Member, Department Head Search Committee, Veterinary Integrative Biosciences</td>
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<tr>
<td>2005-09</td>
<td>Admissions Interviewer</td>
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<tr>
<td>2005-06</td>
<td>Member, Editorial Advisory Board, <em>CVM Today</em></td>
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**Department of Journalism**

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<th>Year</th>
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<tr>
<td>2001-04</td>
<td>Associate Head</td>
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<tr>
<td>1999-01</td>
<td>Interim Head</td>
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<td>1991-99</td>
<td>Assistant Head</td>
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**Other**

<table>
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<th>Year</th>
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<tr>
<td>2014-</td>
<td>Editorial Mentor, <em>Synapse</em> (medical student humanities periodical)</td>
</tr>
<tr>
<td>2010-16</td>
<td>Advisor, Multicultural Awareness Program (Student Activity), College of Medicine</td>
</tr>
<tr>
<td>1992-14</td>
<td>Admissions Interviewer, College of Medicine</td>
</tr>
<tr>
<td>2005-10</td>
<td>Advisor, Aggie Book Club</td>
</tr>
<tr>
<td>2008-09</td>
<td>Faculty Advisory Board Member, <em>Explorations: The Texas A&amp;M Undergraduate Journal</em></td>
</tr>
<tr>
<td>2001-09</td>
<td>Member, Executive Committee, Faculty for the Professional Program in Biotechnology</td>
</tr>
<tr>
<td>1996-05</td>
<td>Advisor, <em>Texas A&amp;M University Undergraduate Journal of Science</em></td>
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<tr>
<td>1991-05</td>
<td>Member, Student Publications Board/Student Media Board</td>
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</table>
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
2008-  Arnold P. Gold Foundation Humanism in Medicine Essay Contest
2012-2018  Association of Health Care Journalists Awards for Excellence in Health Care Journalism

Consulting
Instructor, University of Chicago Graham School of Continuing Liberal and Professional Studies, 2017-
Webinar presenter, InQuill Medical Communications, 2011-
Webinar presenter, Principal Investigators Association, 2013-2014, 2018
Consultant, scientific-communication teaching, Universidad Nacional Autónoma de México, 2013-2014
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, 1991-1992
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
  (Secretary, Section on General Interest in Science and Engineering, 2019- )
  (Chair, Section on General Interest in Science and Engineering, 2008-2009)
American Medical Writers Association
  (Member, Certification Commission, 2011- )
  (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)
Yasha Hartberg  
Curriculum Vitae  
January 8, 2020  

(979) 458-7816  
yhartberg@cvm.tamu.edu  
Veterinary Integrative Biosciences  
Texas A&M University  
4458 TAMU  
College Station, TX 77843-4458  

EDUCATION  

2016  Ph.D.  Biology  
Binghamton University  

1999  M.S.  Biochemistry  
Texas A&M University  

1994  B.S.  Biochemistry  
Texas A&M University  

PROFESSIONAL APPOINTMENTS  

2016-present  Texas A&M University  
Department of Veterinary Integrative Biosciences, Lecturer  

1999-2008  Texas A&M University  
Department of Biochemistry & Biophysics, Lecturer  

PUBLICATIONS  

Refereed Journal Articles  

45(2): 129-154. DOI: 10.1080/15507394.2018.1462645


Edited Volumes


Book Reviews


Other Publications


Manuscripts in Preparation


AWARDS & HONORS

1999 Excellence in Science Communication
Texas A&M University

1994 Welch Foundation Endowment
Texas A&M University

GRANTS

2007 Computer support in biochemistry and genetics teaching laboratories, Texas A&M University, Office of the Vice President and Associate Provost for Information Technology. $35,140.

2006 Computerized gel documentation and analysis systems in biochemistry and genetics teaching laboratories, Texas A&M University, Office of the Vice President and Associate Provost for Information Technology. $21,000.

PRESENTATIONS

Invited Talks

2016 **Yasha Hartberg.** “An introduction to PROSOCIAL.” Shield Ranch, Austin, TX, June 8.

2015 **Yasha Hartberg.** “Sacred Text as Cultural Genome: An Inheritance Mechanism and Method for Studying Cultural Evolution.” Southwestern University, Georgetown, TX, November 13.

2010 **Yasha Hartberg.** “Iceland: an Ideal Model System for Studying Cultural Evolution.” Próun menningar og framtíð Íslands (Evolution of Culture and Iceland’s Future), Reykjavik, Iceland, September 15.


2008 **Yasha Hartberg.** “Teaching Through Controlled Failure.” Wakonse South, Canyon of the Eagles, April 5.


**Institutional Talks**

2014 **Yasha Hartberg.** “Approaches to Studying Institutional Change.” Jewish Non-Profit Organizations, Binghamton University, September 17.


2007 Ragland, Chara and **Yasha Hartberg.** “Strategies for Working with Graduate Students in the Teaching Arena.” Faculty Forum, Texas A&M University, April 10.

2006 Srinivasa, Arun and **Yasha Hartberg.** “Grading 101.” Roundtable discussion of grading issues as part of the International TAs Forum, Texas A&M University, December 7.
Poster Presentations

2015 Taylor Lange, Yasha Hartberg, and David Sloan Wilson. “Green Christianity: How Different Christian Groups Use Their Cultural Genome to React to Climate Change.” Poster presented at the NorthEastern Evolutionary Psychology Society meeting, Suffolk University, Boston, MA, April 9-12.


TEACHING

Texas A&M University

Undergraduate
BICH 412 Experimental Biochemistry I (fall and summer 1999-2008)
BICH 413 Experimental Biochemistry II (spring 2000-2003)
BICH 414 Experimental Biochemistry (spring 2003-2008)
VIBS 310 Biomedical Writing (fall, spring and summer 2017-2019)
VIBS 311 Biomedical Explorations through Narrative (fall, spring, and summer 2016-2019)

Graduate
BIOT 689 Biotechnology Writing (fall 2007)
VIBS 657 Issues in Science and Technology Journalism (fall 2017-present)
VIBS 658 Research Methods in Science and Technology Journalism (spring 2018-present)
Binghamton University

Undergraduate
BIOL 351—Mechanisms of Evolution (summer 2010)
BIOL 355—Ecology (fall 2008-2010, TA)
BIOL 452—Cultural Evolution (spring 2009-2010, TA)

Graduate
Interdisciplinary Research (winter 2011, co-facilitator)

GRADUATE STUDENT MENTORSHIP

Co-chair

<table>
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<tr>
<th>Name</th>
<th>Department</th>
<th>Degree</th>
<th>Start</th>
<th>Graduation</th>
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<tbody>
<tr>
<td>Gwendolyn Inocencio</td>
<td>VIBS</td>
<td>M.S.</td>
<td>3/2018</td>
<td>---</td>
</tr>
<tr>
<td>Rachel Hoyle</td>
<td>BIMS</td>
<td>Ph.D.</td>
<td>9/2017</td>
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Committee member

<table>
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<th>Degree</th>
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<tr>
<td>Corley-Ann Parker</td>
<td>VIBS</td>
<td>M.S., non-thesis</td>
<td>9/2019</td>
<td>---</td>
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<tr>
<td>Courtney Adams</td>
<td>VIBS</td>
<td>M.S., thesis</td>
<td>1/2019</td>
<td>---</td>
</tr>
<tr>
<td>Kushal Jain</td>
<td>BIMS</td>
<td>M.S., non-thesis</td>
<td>9/2018</td>
<td>12/2019</td>
</tr>
<tr>
<td>Madeline Patton</td>
<td>VIBS</td>
<td>M.S., non-thesis</td>
<td>9/2018</td>
<td>---</td>
</tr>
<tr>
<td>Vandana Suresh</td>
<td>VIBS</td>
<td>M.S., non-thesis</td>
<td>1/2018</td>
<td>12/2019</td>
</tr>
<tr>
<td>Ashli Villarreal</td>
<td>VIBS</td>
<td>M.S., thesis</td>
<td>1/2018</td>
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<td>Chantal Cough-Schulze</td>
<td>VIBS</td>
<td>M.S., non-thesis</td>
<td>9/2017</td>
<td>12/2019</td>
</tr>
<tr>
<td>Alexandra Hoskins</td>
<td>VIBS</td>
<td>M.S., non-thesis</td>
<td>9/2017</td>
<td>12/2018</td>
</tr>
<tr>
<td>Catherine Jackson</td>
<td>VIBS</td>
<td>M.S., non-thesis</td>
<td>9/2017</td>
<td>12/2018</td>
</tr>
<tr>
<td>Callie Rainosek</td>
<td>VIBS</td>
<td>M.S., non-thesis</td>
<td>9/2017</td>
<td>5/2019</td>
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Other

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<th>Graduation</th>
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<tr>
<td>Ronnakrit Rattanasriampaipong</td>
<td>OCNG</td>
<td>Ph.D.</td>
<td>9/2019</td>
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</tr>
<tr>
<td>Joseph Burke</td>
<td>SOSC</td>
<td>Ph.D.</td>
<td>9/2018</td>
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SERVICE

Member, BIMS Undergraduate Scholarship Committee, August 2019-present
Judge, Texas Science and Engineering Fair, March 30, 2019
Mentor, GLBT Resource Center’s Mentorship Program, August 2018-present
QPR Suicide Prevention Gatekeeper, 2018-present
Aggie Ally, 2017-present
Co-Director, Annual TA Training Workshop, 2005-2007
Member, Organization of Professional Academic Lecturers, 2004-2008
Member, Texas A&M Lab Safety Subcommittee, 2007/2008
Member, Undergraduate Programs Committee, 2000-2006
Member, Faculty Search Committee, 2000

JOURNAL REVIEWS

Biochemistry and Molecular Biology Education
Cogent Psychology
Evolutionary Behavioral Sciences
Evolutionary Review
International Journal of the Commons
Journal of Economic Issues
Journal of Social, Evolutionary, and Cultural Psychology
Journal of the American Academy of Religion
Mental Health, Religion & Culture
Religion, Brain, and Behavior

PROFESSIONAL AFFILIATIONS

American Association for the Advancement of Science (2017-present)
Institute for the Bio-Cultural Study of Religion (2012-2013, 2016)
The Cultural Evolution Society (2015-present)

PROFESSIONAL DEVELOPMENT

Writing Effective Feedback for Students
Texas A&M University, Center for Teaching Excellence and The University Writing Center, June 19, 2019

Wakonse Conference on College Teaching
The Wakonse Foundation, May 23-28, 2019
StepStone in the Classroom  
Texas A&M University Center for Educational Technologies, May 21, 2019

Generate Professional Success for Academic Professional Track Faculty Workshop  
Texas A&M University Dean of Faculties, May 14-15, 2019

An Introduction to SoTL Grant Writing: Funding Agencies & Opportunities  
Initiative for Educational Excellence, July 27, 2018

QPR Suicide Prevention Training  
Student Counseling Services, July 10, 2018

Wakonse South Teaching Conference  
Center for Teaching Excellence, March 31-April 2, 2017

Wakonse South Teaching Conference  
Center for Teaching Excellence, March 27-29, 2015

Writing Local Cultures  
Svartárkot Culture-Nature, Reykjavík Academy, Iceland, July 3-12, 2009

Wakonse Conference on College Teaching  
The Wakonse Foundation, May 22-27, 2008

Graduate Teaching Academy Mentor  

Wakonse South Teaching Conference  
Center for Teaching Excellence, April 4-6, 2008

Faculty Teaching Academy  

Wakonse South Teaching Conference  
Center for Teaching Excellence, March 30-April 1, 2007

Steps for Better Thinking: A Classroom Model for Teaching, Learning and Assessing Higher-Order Thinking Skills  
Susan K. Wolcott, December 6, 2006
Developing Learning Outcomes and Assessments for Your Course  
Virginia S. Lee & Associates, November 16, 2006

Helping Your Students Develop Critical Thinking Skills  
Center for Teaching Excellence, October 10, 2006

How to Help Students to Become Self-Directed Learners  
Center for Teaching Excellence, October 4, 2006

What the Best College Teachers Do  
Center for Teaching Excellence, September 19, 2006

Wakonse South Teaching Conference  
Center for Teaching Excellence, March 31-April 2, 2006

Teaching Portfolio Workshop  
Center for Teaching Excellence, March 3 & 4, 2006

The Sixth Annual Assessment Conference: Putting Assessment to Work  
Texas A&M University Office of Institutional Assessment and the Scholarship of Assessment Think Tank, February 23-25, 2006

Writing Syllabi that Engage and Motivate Students  
Center for Teaching Excellence, August 9, 2005

Aiming High: Using Models of Good Writing to Spur Students to Excellence  
University Writing Center, Center for Teaching Excellence, Evans Library Instructional Services, July 29, 2005

Getting Started with WebCT Vista  
Instructional Technology Services, May 5, 2005

Wakonse South Teaching Conference  
Center for Teaching Excellence, April 1-3, 2005

Publish & Flourish: Become a Prolific Scholar  
Workshops by Gray, March 25, 2005

Literacy Symposium at Texas A&M University: Literacy Across Cultures  
University Writing Center, October 8, 2004
Dialogue On Writing For Thinking And Learning
University Writing Center and Center for Teaching Excellence, Summer 2004

Faculty Learning Communities

Developing a Writing Intensive Course
University Writing Center, February 26 & 28, 2002

Learning Dialogue
Center for Teaching Excellence, Summer 2002

Teaching in the American Classroom
Center for Teaching Excellence, October 24, 2001

REFERENCES

Available upon request
Appendix O:

Curricula Vitae: Other STJR Faculty
Kevin O. Curley, Jr.

Department of Veterinary Integrative Biosciences
Texas A&M University
383 VIDI
College Station, TX 77843-4458
Office Phone: 979.845.9287
kcurley@cvm.tamu.edu

Education

Ph.D. Physiology of Reproduction Texas A&M University 2012
M.S. Physiology of Reproduction Texas A&M University 2004
B.S. Animal Science and Technology University of Rhode Island 2001

Professional Experience

Instructional Asst. Prof. Veterinary Integrative Biosciences Texas A&M University 2015 - Present
Member Graduate Faculty Texas A&M University 2012 - Present
Lecturer Veterinary Integrative Biosciences Texas A&M University 2009 - 2015
Instructor Animal Science Texas A&M University 2007 - 2009

Teaching Experience Overview

VIBS 456 – 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

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 (recent yrs.)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Role</th>
<th>Course</th>
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<th>Credit Hours</th>
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<td>BIMS 481</td>
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<td>2020A</td>
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<td>ANSC 242</td>
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<td>VIBS 310</td>
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<tr>
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<tr>
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<td>BIMS 481</td>
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<td>2019A</td>
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<td>2017A</td>
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* This version of VIBS 310 was offered to students in the Costa Rica Biomedical Science semester abroad program and incorporated web-based instruction as well as a two-week-long, intensive classroom session.
## Graduate Student Committees

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<tr>
<th>Student</th>
<th>Role</th>
<th>Degree</th>
<th>Program</th>
<th>Track</th>
<th>Graduation</th>
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<tr>
<td>Courtney Adams</td>
<td>member</td>
<td>M.S.</td>
<td>Science and Technology Journalism</td>
<td>thesis</td>
<td>Dec. 2020</td>
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<tr>
<td>Leah Poffenberger</td>
<td>co-chair</td>
<td>M.S.</td>
<td>Science and Technology Journalism</td>
<td>internship</td>
<td>Dec. 2017</td>
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<tr>
<td>William Galbreth</td>
<td>member</td>
<td>M.S.</td>
<td>Biomedical Science</td>
<td>non-thesis</td>
<td>Aug. 2017</td>
</tr>
<tr>
<td>Roberto Molar</td>
<td>co-chair</td>
<td>M.S.</td>
<td>Science and Technology Journalism</td>
<td>thesis</td>
<td>May 2017</td>
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<tr>
<td>Omar Fabian</td>
<td>member</td>
<td>M.S.</td>
<td>Science and Technology Journalism</td>
<td>internship</td>
<td>Dec. 2016</td>
</tr>
<tr>
<td>Laura Gerik</td>
<td>member</td>
<td>M.S.</td>
<td>Science and Technology Journalism</td>
<td>internship</td>
<td>Dec. 2016</td>
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<tr>
<td>Austin Acosta</td>
<td>member</td>
<td>M.S.</td>
<td>Biomedical Science</td>
<td>non-thesis</td>
<td>May 2016</td>
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<tr>
<td>Sara Carney</td>
<td>member</td>
<td>M.S.</td>
<td>Science and Technology Journalism</td>
<td>thesis</td>
<td>May 2016</td>
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<tr>
<td>Iveliz Martel</td>
<td>member</td>
<td>M.S.</td>
<td>Science and Technology Journalism</td>
<td>internship</td>
<td>May 2016</td>
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<tr>
<td>Kristen Streeter</td>
<td>member</td>
<td>M.S.</td>
<td>Biomedical Science</td>
<td>non-thesis</td>
<td>May 2016</td>
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## Teaching Awards and Fellowships

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

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

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


Service

Departmental Level:
- Veterinary Integrative Biosciences Website Taskforce (chair) 2017 - Present
- Science and Technology Journalism Admissions Committee 2017 - Present
- Veterinary Integrative Biosciences Teaching Committee 2011 - Present
- Veterinary Integrative Biosciences Website Taskforce Fall 2010

College Level:
- International Program Advisory Committee 2015 - Present
- Informational Technology Services Advisory Committee 2014 - Present

University Level:
- Faculty Ombuds Officer Search Committee 2018
- Academic Professional Track Faculty Committee 2016 - Present
- Massive Open Online Course (MOOC) Exploration Committee 2012 - 2013
- Massive Open Online Course (MOOC) Advisory Committee 2013 - 2015

Research Experience

Dissertation: *Evaluation of a bovine temperament model for endophenotypes associated with hypothalamic-pituitary-adrenal axis dysfunction*

**Advisors:** Thomas H. Welsh, Jr., Ph.D. and Ronald D. Randel, Ph.D.

- Explored biological, endocrinological and molecular components of the dysregulated stress responsiveness associated with bovine temperament.
- Demonstrated the hyper-stimulatory effects on pituitary function of exogenous vasopressin in animals with excitable temperaments.
- Studied a breed component of cattle temperament as it is associated with physiological stress responsiveness.

Research Awards and Fellowships

Tom Slick Senior Graduate Research Fellowship 2009
- For exceptional Ph.D. research relevant to Texas agriculture

Mauro Procknor Memorial Award 2006, 2008
- For excellence in academics, research, and teaching
Refereed Publications


Book Chapters


Abstracts


Research Bulletins and Reports


EDUCATION

M.S. in Veterinary Public Health & Epidemiology  
Texas A&M, College of Veterinary Medicine and Biomedical Sciences, College Station, Texas, 77843-4458  
Co-chairs: C. Budke, B. Gastel  
2015 - Present  
- A 12 cr. hour degree certificate with coursework in a variety of statistical techniques and modeling—programs included JMP and SAS.

M.S. in Biomedical Sciences  
West Virginia University, School of Medicine, Morgantown, WV  
Emphasis: Cellular and Integrative Physiology  
2008- 2014  
Certificate: University Teaching  
- A 15 cr. hour degree certificate with core coursework focusing on general education as well as discipline-specific pedagogy.

B.S. in Zoology  
Idaho State University, School of Arts and Sciences, Pocatello, ID  
2004-2008  
Advisor: C. Anderson

ACADEMIC POSITIONS

Lecturer  
Texas A&M, College of Veterinary Medicine and Biomedical Sciences, College Station, Texas, 77843-4458  
Fall 2016 - Present  
Joint Appointment, Educational Programs Coordinator

RESEARCH EXPERIENCE

Educational Research  
Texas A&M, University Libraries, Medical Sciences Library  
Fall 2016 - Present  
Research task force on accreditation-driven information management competencies in health professions’ curricula.

Program Effectiveness  
West Virginia University, School of Medicine, Morgantown, WV  
Evaluation Spring 2014  
Evaluation of online component of undergraduate course in a Physiology Classroom

Educational Research  
West Virginia University, School of Arts and Sciences, Morgantown, WV  
Fall 2013  
Curriculum Development and Evaluation for BIOL 340: Invertebrate Zoology

Research Assistant  
West Virginia University, School of Arts and Sciences, Morgantown WV  
2011-2013  
S. Farris/J. Belanger labs, Neuroanatomy/Neuroethology
**Research Assistant**  National Institute of Occupational Health (NIOSH), Morgantown WV  
2009-2011  *A. Shvedova lab, Pulmonary Toxicology, Dept. of Physiology and Pharmacology*

### TEACHING EXPERIENCE

<table>
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<tr>
<th>Role</th>
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<th>Dates</th>
<th>Courses</th>
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| **Course Instructor** | Texas A&M University, College of Veterinary Medicine and Biomedical Sciences, College Station, TX | Spring 2015 - Present | *Veterinary Integrative Biosciences 310: Biomedical Writing*  
Face-to-face and online sections |
| **Course Instructor** | Texas A&M University, College of Veterinary Medicine and Biomedical Sciences, College Station, TX | Fall 2014 - Present | *Veterinary Integrative Biosciences 311: Biomedical Explorations through Narrative*  
Face-to-face and online sections |
| **Guest Lecturer**   | Texas A&M University, College of Veterinary Medicine and Biomedical Sciences, College Station, TX | Spring 2015 - Spring 2017 | *Veterinary Integrative Biosciences 650: Introduction to Graduate Education in the Veterinary Medicine and Biomedical Sciences Environment* |

### STUDY ABROAD EXPERIENCE

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<th>Courses</th>
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<tr>
<td><strong>Course Instructor</strong></td>
<td>Texas A&amp;M University, College of Veterinary Medicine and Biomedical Sciences, Study Abroad Program, AIB, Bonn, Germany</td>
<td>2016/2017/2019</td>
<td><em>Veterinary Integrative Biosciences 447: Neurophysiology of Music</em></td>
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### PREVIOUS COURSES TAUGHT

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<tr>
<td><strong>Lab Manager</strong></td>
<td>West Virginia University, Eberly School of Arts and Sciences, Morgantown, WV</td>
<td>Fall 2013</td>
<td><em>Biology 340: Invertebrate Zoology</em></td>
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</table>
| **Guest Lecturer**  | West Virginia University, Eberly School of Arts and Sciences, Morgantown, WV | Spring 2012 - Spring 2013 | *Biology 438: Animal Behavior*  
*Biology 340: Invertebrate Zoology*  
*Physiology 241: Elementary Physiology*  
*Physiology 441: Mechanism of Body Function* |
| **Teaching Assistant** | West Virginia University, Eberly School of Arts and Sciences, Morgantown, WV | Fall 2011- Spring 2014 | *BIOL 115: Introductory Biology for Majors labs*  
*BIOL 117: Introductory Physiology for Majors labs* |

### PEER-REVIEWED PUBLICATIONS

- **2012**  

- **2019**  
  Waltz MJ, Moberly HK, Carrigan EE. *Identifying information literacy skills and behaviors in the curricular competencies of the professional health programs*.  
  Manuscript submitted
EDITOR-REVIEWED PUBLICATIONS


NON PEER-REVIEWED PUBLICATIONS

2016 Waltz MJ. International Programs at the CVM. *CVM Today*, 18(1): 34-35


PRESENTATIONS/ABSTRACTS

2018 Waltz MJ, Moberly HK, Meador A, Carrigan EE. Identifying information-related competencies to align educational support Qualitative and Quantitative Methods in Libraries, 05/22/18-05/25/18; Crete, Greece.

2017 Waltz MJ, Moberly HK, Budke CM. De-myth-ifying observational study design: modelling deliberate library collaboration to support competency-based curricula. European Association for Health Information and Libraries, 06/12/17-06/16/17; Dublin, Ireland.


2012 Waltz MJ, Belanger JH Sound Reception in Crabs: Keeping an ear to the ground and a leg to the wind. Society for Neuroscience, 10/13/12-10/17/12; New Orleans LA, USA.

2011 Waltz MJ, Murray A, Kisin E, Tkach A, Shvedova A “Osteopontin and TGF-β1 release in response to single walled carbon nanotube exposure.” Society of Toxicology, 03/06/11-03/10/11; Washington D.C., USA.

COMMITTEES/SERVICE

2016 Texas A&M University, College of Veterinary Medicine, College Station, TX Staff Awards Committee

2015 - Texas A&M University, College of Veterinary Medicine, College Station, TX
Present Scholarships and Award Committee

PROFESSIONAL DEVELOPMENT

2019  
*Texas A&M University, Provost’s Office*
Hello2 Teaching Certificate

2018  
*Texas A&M University, Student Services*
Green Dot Bystander Training

2015 - 2016  
*Texas A&M University, Professional Programs Office*
Aggie Allies Facilitator Training

2015  
*Texas A&M University, Professional Programs Office*
Aggie Allies Training

2015  
*Texas A&M University, Department of Instructional Technology Services*
Flipping the Classroom: Faculty Institute

2015  
*Texas A&M University, Department of Instructional Technology Services*
Professional Certification in Online Teaching

2011  
*West Virginia University*
Summer Institute for Undergraduate Scientific Teaching

PROFESSIONAL ORGANIZATIONS/AFFILIATIONS

2018 – Present  
Phi Kappa Phi

2016 – Present  
Evidence Based Veterinarian Medicine Association

2015 – Present  
Texas Veterinary Medical Association

2012 – Present  
American Physiological Society
EDUCATION

Ph.D. Cultural Anthropology  
Texas A&M University, College Station, Texas  

M.S. Science and Technology Journalism  
Texas A&M University, College Station, Texas  

M.S. Biology  
Texas A&M University, College Station, Texas  

B.S. Biology  
University of Houston, Houston, Texas

EMPLOYMENT

Lecturer  
Department of Veterinary Integrative Biosciences, Texas A&M University  
• Instructor for writing-intensive courses for undergraduate students  

EXPERIENCE

Science editing and writing  
Intern/Graphics Editor, Science Editor  
• Assisted with photograph and advertisement layouts  

Student Extern, The University of Texas MD Anderson Cancer Center  
• Edited original research articles, grant proposals, and reports  
• Wrote articles and proofread galleys for departmental publications

Teaching  
Grader, Texas A&M University  
• Grader for a technical writing course in chemical engineering

Graduate Assistant, Texas A&M University  
• Provided feedback on drafts for an undergraduate writing-intensive course  
• Created videos to aid students’ understanding of correct grammar usage  
• Assisted with summer writing-intensive course for international researchers

Biology Teaching Assistant, Texas A&M University  
• Designed and presented class lectures for freshman biology labs  
• Created quizzes and exams

Research

Molecular biology, Texas A&M University  
• Researched RNA interference in fungi  
• Performed fluorescence microscopy, genetic screens, and DNA and RNA extraction  
• Developed optimal methods for mating screens  
• Conducted data analysis, DNA extraction, and PCR
PUBLICATIONS


• Yeoman MS. Editor as Educator. Science Editor. 2016; 39(2).


• Yeoman MS. In their own words: Veterinary student leader autobiographical sketches [Austin Hardegree, Mike McEntire, Sarah Pella, and Trish Hessel]. CVM Today. 2016; 17(2):38-41.


• Yeoman MS. Member profile: Andrew Willden. Science Editor. 2015; 28(2):68.

• Yeoman MS. The Texas A&M Biosciences Semester Germany study abroad program. CVM Today. 2015; 17(1):32-33.

• Yeoman MS. Paying it forward: Dr. Orlando Garza ’79, DVM ’82. CVM Today. 2015; 17(1):72.


• Yeoman MS. Writing clear comparisons [email newsletter]. Houston, TX: Scientific Publications. The MD Anderson Cancer Center; October 16, 2013.


HONORS, AWARDS, AND GRANTS

• Professional Development Grant, Texas A&M University ($1250) 2018
• National Academies Keck Futures Initiative Conference Scholar 2017
• Undergraduate Student Enhancement Grant, Texas A&M University ($1438) 2017
• CVMBS International Faculty Travel Stipend ($3750) 2016
• Graduate Travel Grant, Texas A&M University ($1000) 2016
• Graduate Diversity Fellowship, Texas A&M University 2016
• Undergraduate Student Enhancement Grant, Texas A&M University ($2250) 2016
• Flipping Your Course Development Grant, Texas A&M University ($2000) 2015
• Undergraduate Student Enhancement Grant, Texas A&M University ($1000) 2015
• Santa Fe Science Writing Workshop Grant, Texas A&M University ($1873) 2013
• National Academies Keck Futures Initiative Conference Science Communicator 2012
• Lechner Scholar 2012
• Graduated with membership in the Honors College, University of Houston 2007
• National Council of Teachers of English Achievement Award in Expository Writing 1995

PROFESSIONAL DEVELOPMENT

• Texas Certified Mediator (40-hour basic mediation course) 2020
• Adult Mental Health First Aid (8-hour certification workshop) 2019
• Advanced Narrative Medicine Workshop at Columbia University Medical Center 2016
• Basic Narrative Medicine Workshop at Columbia University Medical Center 2016
• Teaching Writing Abroad Workshop at CCCC 2016
• ITS Faculty Institute: Flipping Your Course 2015
• Inprint 10-week writing workshop: Poetry 2015
- Professional Certification in Online Learning 2015
- University Writing Center: Writing-Intensive Course Primer Workshop 2014
- Inprint 10-week writing workshop: Nonfiction to Fiction 2014
- Employee & Organizational Development: Adobe Dreamweaver 2014
- Inprint 10-week writing workshop: Writing the Personal Essay 2013

**SERVICE TO PROFESSION**

- Member of Academic Civil Rights Investigation Committee 2016 – 2019
- Steering committee member of TAMU Women’s Faculty Network 2016 – Present
- Editorial board member for *Science Editor* 2015 – Present
- AuthorAID mentor ([www.authoraid.info](http://www.authoraid.info)) 2013 – 2017
- Originator and main contributor to AuthorAID *Sentence of the Week* series 2012
Appendix P: Previous Degrees

STJR Students, 2013 and Later Entry
### Previous Degrees:
**MS Students in Science and Technology Journalism, Texas A&M University, 2013 and Later Entry**

<table>
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<tr>
<th>Entry</th>
<th>Student</th>
<th>Previous Degree(s) and Date(s)</th>
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<tr>
<td>Fall 2013</td>
<td>Sara Carney</td>
<td>BS, Biomedical Sciences and Wildlife &amp; Fisheries Sciences, 2013</td>
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<tr>
<td></td>
<td>Gina Wadas</td>
<td>BS, Biology, 2009</td>
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<td>Spring 2014</td>
<td>Roberto Molar</td>
<td>BA, English, 2013</td>
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<tr>
<td>Fall 2014</td>
<td>Bryan Demapan</td>
<td>BS, Physics, 2012                                    MS, Physics, 2014</td>
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<td></td>
<td>Omar Fabian</td>
<td>BS, Materials Science, 2008                                    MS, Materials Science, 2012</td>
<td>MIT, University of Texas at Austin</td>
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<td></td>
<td>Iveliz Martel</td>
<td>BA, Communication, 2007</td>
<td>Pontificia Universidad Católica de Chile</td>
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<td></td>
<td>Claire Ronner (Waters)</td>
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<td>Indiana University</td>
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<td>Katelyn Werner (Le)</td>
<td>BA, English, and BS, Biochemistry, 2014</td>
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<td>Spring 2015</td>
<td>Laura Gerik</td>
<td>BS, Animal Science, 2011</td>
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<td>Gwendolyn Inocencio</td>
<td>BA, English and French, 1995</td>
<td>Sam Houston State University</td>
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<td>Spring 2016</td>
<td>Leah Poffenberger</td>
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<td>Summer 2017</td>
<td>Catherine Jackson</td>
<td>BA, English, 2016</td>
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<td>Chantal Cough-Schulze</td>
<td>BS, Biocultural Anthropology, 2014</td>
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<td>Alexandra Hoskins (Salazar)</td>
<td>BS, Biomedical Sciences and Entomology, 2014</td>
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<td>Callie Rainosek</td>
<td>BS, Agricultural Communications and Journalism, 2017</td>
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<td>Spring 2018</td>
<td>Vandana Suresh</td>
<td>BS, Physics, 2002                                    MS, Physics and Astronomy, 2004, PhD, Neuroscience, 2017</td>
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<td>Ashli Villarreal</td>
<td>BS, Animal Science, 2017</td>
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<td>Fall 2018</td>
<td>Corley-Ann Parker</td>
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<td>BA, English, 2016</td>
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<tr>
<td>Spring 2019</td>
<td>Courtney Adams</td>
<td>BS, Biomedical Sciences, 2018</td>
<td>Texas A&amp;M University</td>
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<tr>
<td>Fall 2019</td>
<td>Justin Agan</td>
<td>BS, Wildlife &amp; Fisheries Sciences, 2018</td>
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<td>Sarah Allen</td>
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<td>Rachel Cook</td>
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<td>Ava English</td>
<td>BS, Biology, 2019</td>
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<td>Danielle Gillen</td>
<td>BS, Animal Science, 2019</td>
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<td>Margaret Preigh</td>
<td>BA, English, 2019</td>
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<td>Jennifer Reiley</td>
<td>BA, Communication, 2015</td>
<td>Texas A&amp;M University</td>
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<td></td>
<td>Jana Rosario</td>
<td>BS, Biomedical Sciences, 2019</td>
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<td></td>
<td>Emma Stogsdill</td>
<td>BA, English, and BS, Environmental Science, 2019</td>
<td>Wittenberg University (Ohio)</td>
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<td>Spring 2020</td>
<td>Melissa Glenn</td>
<td>BS, Animal Science, 2016</td>
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<td>September Martin</td>
<td>BA, English, 2010                                    MA, English, 2015</td>
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1 Information is not provided for the one student who entered the program and was later dismissed, the one student who entered the program and soon left for a PhD program, and the one student who entered the program and decided the first semester to pursue another field.
Appendix Q:

Institutional Profile
November 18, 2019

TO: External Program Reviewers and Program Accreditors

FROM: Michael T. Stephenson
Vice Provost for Academic Affairs & Strategic Initiatives

RE: Information required for USDOE Accrediting Bodies

Texas A&M University is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award baccalaureate, master's, and doctoral degrees. Consistent with standard 14.4, the following provides the institution’s official position on its purpose, governance, programs, degrees, diplomas, certificates, personnel, finances, and constituencies and is published in official university documents as noted.

Purpose

Classified by the Carnegie Foundation as a Research Doctoral University (Highest Research Activity), Texas A&M embraces its mission of the advancement of knowledge and human achievement in all its dimensions. The research mission is a key to advancing economic development in both public and private sectors. Integration of research with teaching prepares students to compete in a knowledge-based society and to continue developing their own creativity, learning, and skills beyond graduation.

The institution’s official mission statement, published both on the institution’s web page as well as in its annual university catalog, is:

Texas A&M University (Texas A&M) is dedicated to the discovery, development, communication and application of knowledge in a wide range of academic and professional fields. Its mission of providing the highest quality undergraduate and graduate programs is inseparable from its mission of developing new understandings through research and creativity. It prepares students to assume roles in leadership, responsibility and service to society. Texas A&M assumes as its historic trust the maintenance of freedom of inquiry and an intellectual environment nurturing the human mind and spirit. It welcomes and seeks to serve persons of all racial, ethnic and geographic groups, women and men alike, as it addresses the needs of an increasingly diverse population and a global economy. In the twenty-first century, Texas A&M University seeks to assume a place of preeminence among public universities while respecting its history and traditions.

Governance

The governance of the institution was described in the 2012 certification of compliance submitted to SACSCOC.
Texas A&M University at College Station, the flagship institution of the Texas A&M University System, has branch campuses located in Galveston, Texas and Doha, Qatar. A ten-member Board of Regents, appointed by the Governor, directs the Texas A&M University System. The appointment of each Regent follows Texas Education Code (TEC, Chapter 85, Section 21).

TEC outlines the duties and responsibilities of the Board of Regents. These responsibilities are also defined in System Policy 02.01 Board of Regents and TEC 51.352. The Board elects two officers: Chair and Vice Chair. There are four standing committees: Audit, Academic & Student Affairs, Finance, and Buildings & Physical Plant. Special committees may be appointed by the Chair with Board approval.

At Texas A&M University the President is the chief executive officer; the President is not the presiding officer of the Board of Regents. The President reports to the state-appointed Board of Regents through the Chancellor of the Texas A&M University System. System Policy 2.05 Presidents of System Member Universities defines the duties of the President. The appointment of the President follows conditions set forth in System Policy 01.03 Appointing Power and Terms and Conditions of Employment, section 2.2.

**Personnel**

The institution is led by the President and members of his cabinet:

- Michael K. Young, President
- Carol A. Fierke, Provost and Executive Vice President, Chief Academic Officer
- Jerry R. Strawser, Executive Vice President and Chief Financial Officer
- Michael Benedik, Vice Provost and Chief International Officer
- Michael T. Stephenson, Vice Provost for Academic Affairs & Strategic Initiatives
- M. Dee Childs, Vice President for Information Technology and CIO
- Michael G. O’Quinn, Vice President for Government Relations & Strategic Initiatives
- Col. Michael E. Fossum, Chief Operating Officer, TAMU-Galveston
- Jeff Risinger, Vice President for HR & Organizational Effectiveness
- Robin Means Coleman, Vice President and Associate Provost for Diversity
- Mark Barteau, Vice President for Research
- Greg Hartman, Vice Chancellor for Strategic Initiatives, TAMU & Interim Senior Vice President, TAMU-HSC
- Daniel J. Pugh, Sr., Vice President for Student Affairs
- Joseph P. Pettitbon, II, Vice President for Enrollment and Academic Services
- Gen Joe E. Ramirez, Jr. Commandant, Corps of Cadets
- Amy B. Smith, Senior Vice President and Chief Marketing and Communications Officer
- Ross Bjork, Athletics Director
- Jonathan Bowling, Sr. Associate Athletics Director, Athletics Compliance
- Shane Hinckley, Vice President for Brand Development
- Andrew P. Morris, VP of Entrepreneurship & Economic Development, Dean of the I-School
- C.J. Woods, Associate Vice President and Chief of Staff
- Kevin McGinnis, Chief Compliance Officer

**Programs, Degrees, Diplomas, and Certificates**

See the appended Degrees and Programs Offered tables.

**Finances**

See the 2019 SACSCOC Financial Profile and Indicators
GENERAL INFORMATION

Name of Institution  Texas A&M University

Name, Title, Phone number, and email address of Accreditation Liaison
Michael T. Stephenson
Vice Provost for Academic Affairs and Strategic Initiatives, and SACSCOC Accreditation Liaison
979.845.4016
mstephenson@tamu.edu

Name, Title, Phone number, and email address of Technical Support person for the Compliance Certification
Alicia M. Dorsey
Assistant Provost for Institutional Effectiveness
979.862.2918
amdorsey@tamu.edu

IMPORTANT:

Accreditation Activity (check one):

x Submitted at the time of Reaffirmation Orientation
☐ Submitted with Compliance Certification for Reaffirmation
☐ Submitted with Materials for an On-Site Reaffirmation Review
☐ Submitted with Compliance Certification for Fifth-Year Interim Report
☐ Submitted with Compliance Certification for Initial Candidacy/Accreditation Review
☐ Submitted with Merger/Consolidations/Acquisitions
☐ Submitted with Application for Level Change

Submission date of this completed document:  November 13, 2019
EDUCATIONAL PROGRAMS

1. Level of offerings (Check all that apply)
   
   X Diploma or certificate program(s) requiring less than one year beyond Grade 12
   X Diploma or certificate program(s) of at least two but fewer than four years of work beyond Grade 12
   □ Associate degree program(s) requiring a minimum of 60 semester hours or the equivalent designed for transfer to a baccalaureate institution
   □ Associate degree program(s) requiring a minimum of 60 semester hours or the equivalent not designed for transfer
   X Four or five-year baccalaureate degree program(s) requiring a minimum of 120 semester hours or the equivalent
   X Professional degree program(s)
   X Master's degree program(s)
   □ Work beyond the master's level but not at the doctoral level (such as Specialist in Education)
   X Doctoral degree program(s)
   □ Other (Specify)

2. Types of Undergraduate Programs (Check all that apply)
   
   □ Occupational certificate or diploma program(s)
   □ Occupational degree program(s)
   □ Two-year programs designed for transfer to a baccalaureate institution
   X Liberal Arts and General
   X Teacher Preparatory
   X Professional
   □ Other (Specify)

GOVERNANCE CONTROL

Check the appropriate governance control for the institution:

□ Private (check one)
  □ Independent, not-for-profit
    Name of corporation OR
    Name of religious affiliation and control:
  □ Independent, for-profit *
    If publicly traded, name of parent company:

X Public state * (check one)
  □ Not part of a state system, institution has own independent board
  X Part of a state system, system board serves as governing board
  □ Part of a state system, system board is super governing board, local governing board has delegated authority
  □ Part of a state system, institution has own independent board

* If an institution is part of a state system or a corporate structure, a description of the system operation must be submitted as part of the Compliance Certification for the decennial review. See Commission policy “Reaffirmation of Accreditation and Subsequent Reports” for additional direction.
INSTITUTIONAL INFORMATION FOR REVIEWERS

Directions:  
Please address the following and attach the information to this form.

1. History and Characteristics
   Provide a brief history of the institution, a description of its current mission, an indication of its geographic service area, and a description of the composition of the student population. Include a description of any unusual or distinctive features of the institution and a description of the admissions policies (open, selective, etc.). If appropriate, indicate those institutions that are considered peers. Please limit this section to one-half page.

   History. Texas A&M University (TAMU) opened in 1876 as the state’s first public institution of higher education. TAMU is one of a select few institutions in the nation to hold land grant, sea grant (1971) and space grant (1989) designations. A mandatory military component was a part of the land grant designation until 1965; currently, it is one of only three institutions with a full-time Corps of Cadets, leading to commissions in all branches of service. TAMU has two branch campuses, one in Galveston, Texas, (established in 1962, officially merged with TAMU in 1991) and one in Doha, Qatar (established in 2003) and 16 approved off-campus instructional locations. In 2013, the Texas A&M University System Health Science Center merged with TAMU. This same year, TAMU acquired the School of Law from Texas Wesleyan University. Finally, TAMU is classified by the Carnegie Foundation as a Research University (very high research activity).

   Mission. Texas A&M University is dedicated to the discovery, development, communication, and application of knowledge in a wide range of academic and professional fields. Its mission of providing the highest quality undergraduate and graduate programs is inseparable from its mission of developing new understandings through research and creativity. It prepares students to assume roles in leadership, responsibility and service to society. Texas A&M assumes as its historic trust the maintenance of freedom of inquiry and an intellectual environment nurturing the human mind and spirit. It welcomes and seeks to serve persons of all racial, ethnic and geographic groups as it addresses the needs of an increasingly diverse population and a global economy. In the 21st century, Texas A&M University seeks to assume a place of preeminence among public universities while respecting its history and traditions.

   Enrollment Profile. Fall 2018 total enrollment was 69,367 students (across all campuses and locations), with 64,126 (92.4%) located on the main campus in College Station. Undergraduate enrollment made up 78.3% of the total student body, with Hispanic, Black, and American Indian students making up 24.9% of the total student body. TAMU Galveston enrolled 1,815 students as of Fall, 2018, with TAMU Qatar enrolling 549 students.

   Admissions Process. Automatic admission is available in two ways: (1) for Texas resident applicants in the top 10% of their high school graduating class; and, (2) for applicants who rank in the top 25% of their high school graduating class and achieve a combined SAT math and SAT critical reading score of at least 1300, with a test score of at least 600 in each component or 30 composite on the ACT with a 27 in the math and English components. The review of all other applicants is based on academic potential, distinguishing characteristics, exceptional circumstances, and personal achievements.

   Peer Institutions. Georgia Institution of Technology; The Ohio State University; Pennsylvania State University; Purdue University; University of California at Berkeley, Davis, Los Angeles, and San Diego; University of Florida; University of Illinois at Urbana-Champaign; University of Michigan; University of Minnesota; University of North Carolina at Chapel Hill; University of Texas at Austin; and University of Wisconsin – Madison.

2. List of Degrees
   List all degrees currently offered (A. S., B.A., B.S., M.A., Ph.D., for examples) and the majors or concentrations within those degrees, as well as all certificates and diplomas. For each credential offered, indicate the number of graduates in the academic year previous to submitting this report. Indicate term dates.

Does the institution offer any credit, non-credit, or pathways English as a Second Language (ESL) programs? If yes, list the programs.
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*Major dependent certificates
3. Off-Campus Instructional Locations and Branch Campuses

List all approved off-campus instructional locations where 25% or more credit hours toward a degree, diploma, or certificate can be obtained primarily through traditional classroom instruction. Report those locations in accord with the Commission’s definitions and the directions as specified below.

Table 1: Off-campus instructional sites—a site located geographically apart from the main campus at which the institution offers 50% or more of its credit hours for a diploma, certificate, or degree. This includes high schools where courses are offered as part of dual enrollment. For each site, provide the information below. The list should include only those sites reported to and approved by SACSCOC. Listing unapproved sites below does not constitute reporting them to SACSCOC. In such cases when an institution has initiated an off-campus instructional site as described above without prior approval by SACSCOC, a prospectus for approval should be submitted immediately to SACSCOC.

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<th>Physical Address (street, city, state, country) Do not include PO Boxes.</th>
<th>Date Approved by SACSCOC</th>
<th>Date Implemented by the institution</th>
<th>Educational programs offered (specific degrees, certificates, diplomas) with 50% or more credits hours offered at each site</th>
<th>Is the site currently active? (At any time during the past 5 years, have students been enrolled and courses offered? If not, indicate the date of most recent activity.)</th>
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| Texas A&M Health Science Center | 8441 State Highway 47 Clinical Building 1, Suite 3100 Bryan, TX 77807 | 2000 | 2000 | MEDICAL SCIENCES MS  
MEDICAL SCIENCES PHD  
MEDICINE MD  
NURSING BSN | Yes |
| Baylor University Medical Center | 3500 Gaston Avenue Dallas, TX 75246 | 2012 | 2011 | MEDICINE MD | Yes |
| College of Dentistry | 3302 Gaston Ave. Dallas, TX 75246 | 2001 | 2000 | ADVANCED EDUCATION IN GENERAL DENTISTRY CERT-G  
DENTAL HYGIENE BS  
DENTAL PUBLIC HEALTH CERT-G  
DENTISTRY DDS  
ENDODONTICS CERT-G  
ORAL AND MAXILLOFACIAL SURGERY CERT-G  
ORAL AND MAXILLOFACIAL PATHOLOGY CERT-G  
ORAL AND MAXILLOFACIAL RADIOLOGY CERT-G  
ORAL BIOLOGY MS  
ORAL BIOLOGY PHD  
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PEDIATRIC DENTISTRY CERT-G  
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<td>Health Professions Building 3950 North A. W. Grimes Blvd. Round Rock, TX 78665</td>
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<td>2010</td>
<td>MEDICINE</td>
<td>MD</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NURSING</td>
<td>BSN</td>
<td></td>
</tr>
</tbody>
</table>
Table 2: Off-campus instructional sites at which the institution offers 25-49% of its credit hours for a diploma, certificate, or degree—including high schools where courses are offered as dual enrollment. **Note: institutions are required to notify SACSCOC in advance of initiating coursework at the site.** For each site, provide the information below.

<table>
<thead>
<tr>
<th>Name of Site (Indicate if site is currently active or inactive. If inactive, date of last course offerings and date of projected reopening)</th>
<th>Physical Address (street, city, state, country) Do not include PO Boxes.</th>
<th>Date of SACSCOC letter accepting notification</th>
<th>Date Implemented by the institution</th>
<th>Educational programs offered (specific degrees, certificates, diplomas) with 25-49% credit hours offered at each site</th>
<th>Is the site currently active? (At any time during the past 5 years, have students been enrolled and courses offered? If not, indicate the date of most recent activity.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travis Park Plaza</td>
<td>711 Navarro Street, Suite 250 San Antonio, TX 78205</td>
<td>2017</td>
<td>2017</td>
<td>JURISPRUDENCE</td>
<td>MJ</td>
</tr>
<tr>
<td>College of Medicine - Temple</td>
<td>2401 S. 31st Street Temple, TX 76508</td>
<td>2000</td>
<td>2000</td>
<td>MEDICINE</td>
<td>MD</td>
</tr>
</tbody>
</table>

Table 3: **Branch campus**—an instructional site located geographically apart and independent of the main campus of the institution. A location is independent of the main campus if the location is (1) permanent in nature, (2) offers courses in educational programs leading to a degree, certificate, or other recognized educational credential, (3) has its own faculty and administrative or supervisory organization, and (4) has its own budgetary and hiring authority. **The list should include only those branch campuses reported to and approved by SACSCOC.** Listing unapproved branch campuses below does not constitute reporting them to SACSCOC. A prospectus for an unapproved branch campuses should be submitted immediately to SACSCOC.

<table>
<thead>
<tr>
<th>Name of Branch Campus</th>
<th>Physical Address (street, city, state, country) Do not include PO Boxes.</th>
<th>Date Approved by SACSCOC</th>
<th>Date Implemented by the institution</th>
<th>Educational programs (specific degrees, certificates, diplomas) with 50% or more credits hours offered at the branch campus</th>
<th>Is the campus currently active? (At any time during the past 5 years, have students been enrolled and courses offered? If not, indicate the date of most recent activity.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas A&amp;M University at Galveston</td>
<td>200 Seawolf Pkwy Galveston, TX 77553</td>
<td>1992</td>
<td>1991</td>
<td>INTERDISCIPLINARY ENGINEERING</td>
<td>BS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MARINE BIOLOGY</td>
<td>BS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MARINE BIOLOGY</td>
<td>MS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MARINE BIOLOGY</td>
<td>PHD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MARINE ENGINEERING TECHNOLOGY</td>
<td>BS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MARINE FISHERIES</td>
<td>BS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MARINE RESOURCES MANAGEMENT</td>
<td>MMR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MARINE SCIENCES</td>
<td>BS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MARINE TRANSPORTATION</td>
<td>BS</td>
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<td></td>
<td></td>
<td>MARITIME ADMINISTRATION</td>
<td>BS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MARITIME ADMINISTRATION &amp; LOGISTICS</td>
<td>MML</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td>Yes</td>
</tr>
</tbody>
</table>
4. Distance and Correspondence Education

Provide an initial date of approval for your institution to offer distance education. Provide a list of credit-bearing educational programs (degrees, certificates, and diplomas) where 50% or more of the credit hours are delivered through distance education modes. For each educational program, indicate whether the program is delivered using synchronous or asynchronous technology, or both. For each educational program that uses distance education technology to deliver the program at a specific site (e.g., a synchronous program using interactive videoconferencing), indicate the program offered at each location where students receive the transmitted program. Please limit this description to one page, if possible.

<table>
<thead>
<tr>
<th>Credit Bearing Degree Programs</th>
<th>Synchronous, Asynchronous, or Both</th>
<th>Site</th>
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</thead>
<tbody>
<tr>
<td>Advance International Affairs</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Aerospace Engineering</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Agricultural Development</td>
<td>MAGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Agricultural Education</td>
<td>EDD</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Agricultural Systems Management</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Agriculture eLearning Development</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Analytics</td>
<td>MS</td>
<td>Synchronous</td>
</tr>
<tr>
<td>Applied Behavior Analysis</td>
<td>CERT-G</td>
<td>Both</td>
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<tr>
<td>Applied Statistics</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Bilingual Education</td>
<td>MED</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Bilingual Education</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Biological &amp; Agricultural Engineering</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Computer Engineering</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Curriculum &amp; Instruction</td>
<td>EDD</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Educational Administration</td>
<td>MED</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Education for Health Care Professionals</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Education for Health Care Professionals</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Educational Human Resource Development</td>
<td>MED</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>MED</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>MS</td>
<td>Asynchronous</td>
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<tr>
<td>Program</td>
<td>Degree</td>
<td>Delivery</td>
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<tr>
<td>----------------------------------------------</td>
<td>--------</td>
<td>-----------</td>
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<tr>
<td>Educational Technology</td>
<td>MED</td>
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</tr>
<tr>
<td>Electrical Engineering</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Energy</td>
<td>CERT-G</td>
<td>Asynchronous</td>
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<tr>
<td>Energy</td>
<td>MS</td>
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<tr>
<td>Engineering</td>
<td>MENGR</td>
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<tr>
<td>Engineering Systems Management</td>
<td>MS</td>
<td>Asynchronous</td>
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<tr>
<td>Epidemiology</td>
<td>MPH</td>
<td>Asynchronous</td>
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<tr>
<td>Extension Education</td>
<td>CERT-G</td>
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<tr>
<td>Family Nurse Practitioner</td>
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<td>Asynchronous</td>
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<tr>
<td>Forensic Healthcare</td>
<td>CERT</td>
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<tr>
<td>Forensic Nursing</td>
<td>MSN</td>
<td>Asynchronous</td>
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<tr>
<td>Geoscience</td>
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<tr>
<td>Health Coaching for Chronic Disease Prevention and Management</td>
<td>CERT-G</td>
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<tr>
<td>Health Education</td>
<td>MS</td>
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</tr>
<tr>
<td>Hispanic Bilingual Education</td>
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<td>Asynchronous</td>
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<tr>
<td>Homeland Security Certificate</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Hospitality Management</td>
<td>CERT-UG</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Industrial Data Analytics</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Industrial Distribution</td>
<td>MID</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Industrial Engineering</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>International Agriculture &amp; Resource Management</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Jurisprudence</td>
<td>MJ</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Laws</td>
<td>ML</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Leadership Education, Theory, and Practice</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Maritime Administration &amp; Logistics</td>
<td>MMAL</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Mathematics</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Medical Science</td>
<td>MS</td>
<td>Synchronous</td>
</tr>
<tr>
<td>Medical Science</td>
<td>PHD</td>
<td>Synchronous</td>
</tr>
<tr>
<td>Military Land Sustainability</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>National Security Affairs</td>
<td>CERT-G</td>
<td>Synchronous</td>
</tr>
<tr>
<td>Natural Resources Development</td>
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</tr>
<tr>
<td>Non-Profit Management</td>
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<td>Asynchronous</td>
</tr>
<tr>
<td>Nuclear Security</td>
<td>CERT-G</td>
<td>Asynchronous</td>
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<tr>
<td>Nursing</td>
<td>BSN</td>
<td>Both</td>
</tr>
<tr>
<td>Nursing Education</td>
<td>MSN</td>
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<td>Petroleum Engineering</td>
<td>MENGR</td>
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</tr>
<tr>
<td>Plant Breeding</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Program</td>
<td>Degree</td>
<td>Mode</td>
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<tr>
<td>--------------------------------------------------</td>
<td>--------</td>
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</tr>
<tr>
<td>Plant Breeding</td>
<td>PHD</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Poultry Science</td>
<td>MAGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Public Health</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Public Management</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Public Service &amp; Administration</td>
<td>MPSA</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Recreation &amp; Resources Development</td>
<td>MRRD</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Regulatory Science in Food Systems</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Safety Engineering</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Safety Engineering</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Science, Technology, Engineering and Mathematics Education</td>
<td>CERT-G</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Special Education</td>
<td>MED</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Special Education</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Sport Management</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Statistics</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Technical Management</td>
<td>METM</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Tourism Management*</td>
<td>CERT-UG</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Wildlife Science</td>
<td>MWSC</td>
<td>Asynchronous</td>
</tr>
</tbody>
</table>

*Major dependent certificates

5. **Accreditation**

1. List all agencies that currently accredit the institution and any of its programs and indicate the date of the last review by each.

<table>
<thead>
<tr>
<th>Accrediting Agency</th>
<th>Program</th>
<th>Last Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accreditation Council for Pharmacy Education</td>
<td>Irma Lerma Rangel College of Pharmacy</td>
<td>April 2014</td>
</tr>
<tr>
<td>American Bar Association</td>
<td>Texas A&amp;M University School of Law</td>
<td>October 2016</td>
</tr>
<tr>
<td>American Chemical Society</td>
<td>Chemistry</td>
<td>May 2013</td>
</tr>
<tr>
<td>American Council for Construction Education</td>
<td>Construction Management, Construction Science</td>
<td>October 2017</td>
</tr>
<tr>
<td>American Society of Agricultural and Biological Engineers</td>
<td>Agricultural Systems Management</td>
<td>September 2015</td>
</tr>
<tr>
<td>American Veterinary Medical Association Council on Education</td>
<td>Veterinary Medicine</td>
<td>December 2015</td>
</tr>
<tr>
<td>Association to Advance Collegiate Schools of Business</td>
<td>The business baccalaureate, master’s, and doctoral programs in Mays Business School</td>
<td>January 2017</td>
</tr>
<tr>
<td>Commission on Accreditation for Dietetics Education</td>
<td>Didactic Program in Dietetics</td>
<td>January 2015</td>
</tr>
<tr>
<td>Commission on Accreditation of Athletic Training Education</td>
<td>Athletic Training</td>
<td>April 2018</td>
</tr>
<tr>
<td>Commission on Accreditation of Healthcare Management Education</td>
<td>The Master of Health Administration</td>
<td>November 2019</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Commission on Collegiate Nursing Education</td>
<td>Nursing – Baccalaureate Nursing – Master’s</td>
<td>March 2014 February 2015</td>
</tr>
<tr>
<td>Commission on Dental Accreditation</td>
<td>Dental Public Health Oral &amp; Maxillofacial Surgery Oral &amp; Maxillofacial Radiology Dental Hygiene Predoctoral Dental Education Advanced Clinical Certificates: • Advanced Education in General Dentistry • Endodontics • Oral Maxillofacial Pathology • Orthodontics &amp; Dentofacial Orthopedics • Pediatric Dentistry • Periodontics • Prosthodontics</td>
<td>October 2016 September 2019 March 2017 October 2018</td>
</tr>
<tr>
<td>Computing Accreditation Commission of ABET</td>
<td>Computer Science</td>
<td>August 2017</td>
</tr>
<tr>
<td>Council on Education for Public Health</td>
<td>School of Public Health</td>
<td>October 2018</td>
</tr>
<tr>
<td>Engineering Accreditation Commission of ABET</td>
<td>College Station Undergraduate Programs in: • Aerospace Engineering • Agricultural Engineering • Bioengineering • Biological &amp; Agricultural Engineering • Biological Systems Engineering • Biomedical Engineering • Chemical Engineering • Civil Engineering • Computer Engineering • Electrical Engineering • Industrial Engineering • Mechanical Engineering • Nuclear Engineering • Ocean Engineering • Petroleum Engineering • Radiological Health Engineering TAMU at Qatar Undergraduate Programs in: • Chemical Engineering • Electrical Engineering • Mechanical Engineering • Petroleum Engineering TAMU at Galveston Undergraduate Programs in: • Marine Engineering • Maritime Systems Engineering • Offshore and Coastal Systems Engineering</td>
<td>September 2016 October 2014 October 2016</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Engineering Technology Accreditation Commission of ABET</th>
<th>College Station Undergraduate Programs in:</th>
<th>October 2013</th>
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<tbody>
<tr>
<td></td>
<td>Electronic Systems Engineering</td>
<td></td>
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<td></td>
<td>Electronic(s) Engineering Technology</td>
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</tr>
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<td></td>
<td>Manufacturing &amp; Mechanical Engineering Technology</td>
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<td>Manufacturing Engineering Technology</td>
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<tr>
<td></td>
<td>Mechanical Engineering Technology</td>
<td></td>
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<tr>
<td></td>
<td>Telecommunications Engineering Technology</td>
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<table>
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<th>Galveston Undergraduate Programs in:</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Marine Engineering Technology</td>
<td></td>
</tr>
</tbody>
</table>

| Forensic Science Education Programs Accreditation Commission (FEPAC) | Forensics & Investigative Sciences Program | September 2016 |

| Institute of Food Technologists                         | Food Science & Technology               | December 2016 |

<table>
<thead>
<tr>
<th>Landscape Architectural Accreditation Board</th>
<th>Bachelor – Landscape Architecture</th>
<th>February 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Master – Landscape Architecture</td>
<td>September 2017</td>
</tr>
</tbody>
</table>

| Liaison Committee on Medical Education                 | Medical Education Degree Program        | August 2012   |

| National Architectural Accrediting Board                | Architecture                            | March 2017    |

| Network of Schools of Public Policy, Affairs, and Administration | The Master of Public Service and Administration degree in the Bush School of Government and Public Service | April 2014 |

| National Recreation and Park Association                | Recreation, Park and Tourism Sciences   | January 2016  |

| Planning Accreditation Board                             | Urban and Regional Planning             | March 2013    |

| Society for Range Management                            | Rangeland Ecology and Management        | April 2017    |

| Society of American Foresters                            | Forestry                                | March 2013    |

| Texas Education Agency                                   | Programs in professional education      | March 2011    |

(2) If SACS Commission on Colleges is not your primary accreditor for access to USDOE Title IV funding, identify which accrediting agency serves that purpose.

Not applicable.

(3) List any USDOE-recognized agency (national and programmatic) that has terminated the institution’s accreditation (include the date, reason, and copy of the letter of termination) or list any agency from which the institution has voluntarily withdrawn (include copy of letter to agency from institution).

1. COMMISSION ON ENGLISH LANGUAGE PROGRAM ACCREDITATION (CEA) – The English Language Institute at Texas A&M University voluntarily withdrew from CEA. The English Language Institute was accredited in good standing through August, 2018, at the time of the voluntary withdrawal (with no history of adverse action). The university made the decision to close the English Language Institute as an administrative unit on May 31, 2017. Please see attached correspondence.
(4) Describe any sanctions applied or negative actions taken by any USDOE-recognized accrediting agency (national, programmatic, SACSCOC) during the two years previous to the submission of this report. Include a copy of the letter from the USDOE-recognized agency to the institution.

None.

6. **Relationship to the U.S. Department of Education**

Indicate any limitations, suspensions, or termination by the U.S. Department of Education in regard to student financial aid or other financial aid programs during the previous three years. Report if on reimbursement or any other exceptional status in regard to federal or state financial aid.

None.
2019 SACSCOC Financial Profile and Indicators

Institution Name Address: Texas A&M University, College Station, TX

Thank you for completing the 2019 Financial Profile and Indicators:

The Profile was submitted by Michael T. Stephenson on 7/8/2019 and approved by Michael K. Young on 7/12/2019.

**FINAL SUBMISSION**

<table>
<thead>
<tr>
<th>Fields:</th>
<th>Hint</th>
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<td>Total All Revenues And Other</td>
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<tr>
<td>Instruction:</td>
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<tr>
<td>Research:</td>
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<tr>
<td>Public Service:</td>
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<td>Academic Support:</td>
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<td>Student Services:</td>
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<tr>
<td>06, column 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional Support:</td>
<td>(IPEDs Part C-1, line</td>
<td>$136,728,213</td>
</tr>
<tr>
<td>07, column 1)</td>
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<tr>
<td>Auxiliary Enterprises:</td>
<td>(IPEDs Part C-1, line</td>
<td>$267,808,281</td>
</tr>
<tr>
<td>11, column 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital Services:</td>
<td>(IPEDs Part C-1, line</td>
<td>$0</td>
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<tr>
<td>12, column 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent Operations:</td>
<td>(IPEDs Part C-1, line</td>
<td>$0</td>
</tr>
<tr>
<td>13, column 1)</td>
<td></td>
<td></td>
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<tr>
<td>Others Expenses And Deductions:</td>
<td>(IPEDs Part C-1, line</td>
<td>$320,645,045</td>
</tr>
<tr>
<td>14, column 1)</td>
<td></td>
<td></td>
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<tr>
<td>Scholarships And Fellowships:</td>
<td>(IPEDs Part C-1, line</td>
<td>$111,646,861</td>
</tr>
<tr>
<td>10, column 1)</td>
<td></td>
<td></td>
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<tr>
<td>FROM AUDITED FY 2018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Statements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Assets (add Deferred Outflows):</td>
<td></td>
<td>$6,628,763,587</td>
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<tr>
<td>Total Liabilities (add Deferred Inflows):</td>
<td></td>
<td>$786,296,833</td>
</tr>
<tr>
<td>Description</td>
<td>Value</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------</td>
<td>----------------------------</td>
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<tr>
<td>Total Unrestricted Net Assets (and Capital Assets, Net):</td>
<td>$4,697,292,384</td>
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<tr>
<td>Expendable/Temporary Restricted Net Assets:</td>
<td>$240,443,828</td>
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<tr>
<td>Expendable/Temporary Restricted Net Assets:</td>
<td>$904,730,542</td>
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<tr>
<td>Total Revenue (operating plus Non-operating):</td>
<td>$2,352,488,830</td>
<td></td>
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<tr>
<td>Tuition and Fees, Net:</td>
<td>$641,703,109</td>
<td></td>
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<tr>
<td>Current Debt:</td>
<td>$133,772,475</td>
<td></td>
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<tr>
<td>Long-term Debt:</td>
<td>$1,643,534,514</td>
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</tbody>
</table>