

# AS.491 ( SCIENCE WRITING)

## **AS.491.658. Techniques of Science-Medical Writing. 4 Credits.**

This core course develops and hones the reporting, creative and explanatory skills demonstrated by the best science-medical writers. The course features writing assignments and exercises in journalistic and literary writing, plus interviewing, ethics and the use of scientific journals and databases. In some cases, students may be able to choose from a range of writing topics, including nature, technology, health, space, biology, medicine, or other scientific issues. Science Writing students should complete this course before enrolling in any writing workshop. Departmental approval and a writing sample required for students not enrolled in the Science Writing Program.

## **AS.491.673. Science-Medical Writing Workshop. 4 Credits.**

In a writing workshop, students receive professional guidance in translating complex scientific, medical, or technological knowledge and research into graceful, lucid prose. Students submit individual essays or articles, or parts of a larger work in progress. Writing submissions are critiqued by peers as well as by the instructor, then revised. Students are encouraged but not required to take this course from different instructors. (The three section numbers designate the academic term in which the workshop is offered. Students earn workshop credit by taking any section number multiple times, or by combining any sections.) Prerequisite: 491.658

## **AS.491.674. Science-Medical Writing Workshop. 4 Credits.**

In a writing workshop, students receive professional guidance in translating complex scientific, medical, or technological knowledge and research into graceful, lucid prose. Students submit individual essays or articles, or parts of a larger work in progress. Writing submissions are critiqued by peers as well as by the instructor, then revised. Students are encouraged but not required to take this course from different instructors. (The three section numbers designate the academic term in which the workshop is offered. Students earn workshop credit by taking any section number multiple times, or by combining any sections.) Prerequisite: 491.658

## **AS.491.675. Science-Medical Writing Workshop. 4 Credits.**

In a writing workshop, students receive professional guidance in translating complex scientific, medical, or technological knowledge and research into graceful, lucid prose. Students submit individual essays or articles, or parts of a larger work in progress. Writing submissions are critiqued by peers as well as by the instructor, then revised. Students are encouraged but not required to take this course from different instructors. (The three section numbers designate the academic term in which the workshop is offered. Students earn workshop credit by taking any section number multiple times or by combining any sections.) Prerequisite: 491.658

## **AS.491.680. Writing the Tech Story Workshop. 4 Credits.**

This workshop course explores the reporting and writing techniques used to produce compelling stories about technology, its inventors, and its consumers. Students first analyze outstanding examples of technology writing on a range of subjects, forms, and styles, from hard news to creative nonfiction. They then submit their own writing about technology for standard workshop discussion. Special topics include making technology interesting to the non-geek and avoiding a tendency to sound promotional about consumer goods. Guest speakers who specialize in technology writing will discuss how to attract readers and find work in the field. This course counts as a workshop for degree or certificate requirements. Prerequisite 491.658

## **AS.491.691. Science Policy, Funding and Politics. 4 Credits.**

This Residency course, intended to be onsite in Washington, D.C., explores how science, medicine and technology are affected by politics and practices within government, the private sector and within the fields themselves. Students or program alumni use the evolution of science policy as context for discussion, research, and writing about contemporary issues. Students meet with leaders from Capitol Hill, the White House, and federal agencies, and they visit important sites relevant to science policy.

## **AS.491.696. The Nature of Nature. 4 Credits.**

This reading course focuses on the species and critters and phenomena that make up "nature" (the outdoors, ecosystems, natural history) and human interaction with nature (e.g., travel in, appreciation of, effects on). Students analyze books, essays, and articles from writers who tell gripping, true stories about topics ranging from outdoor adventure to environmental catastrophe to personal reflection. Students will also engage in numerous nature-writing exercises. For this course, you will be taking a step into the wild. Nature writing is considered a subset of science writing. Readings may include authors such as David Quammen, John McPhee, Elizabeth Kolbert, Gretel Ehrlich, and other contemporary writers.

## **AS.491.697. The Literature of Science. 4 Credits.**

In this reading elective, students analyze current and classic books, magazine articles, and newspaper series to discover how the best science, medical, nature, and environmental writers create compelling, entertaining, factual literature. Craft topics include structure, pace, sources, content, explanatory writing, and clear, lyrical language. Assignments may include brief reviews and a team presentation of an assigned book, from such writers as Erik Larson, Atul Gawande, Rachel Carson, John McPhee, James Gleick, Lewis Thomas, Elizabeth Kolbert, or Jonathan Weiner.

## **AS.491.700. Subatomic Writing. 4 Credits.**

This elective examines writing on the particle level: sound, syntax, punctuation, rhythm, and pacing. Together, these elements can generate meaningful, understandable, and nuanced content. How does sound echo sense? How does the spin of syntax affect the flavor of the sentence? How does pacing affect the joke? Writers who know the laws of language can navigate them with flexibility or break them with aplomb and purpose. Momentum and energy at these basic levels keep readers engaged and make editors and agents sit up with interest. This elective with workshop elements asks students to bring their favorite sentences from literature and analyze why they work at the most fundamental levels. Class discussions on VoiceThread or other online tools allow students to interact with sound and old-school sentence diagrams. Students will then create science writing projects crafted at the quantum level without losing sight of global goals and overall quality. Science writers who feel like weak bosons when it comes to voice, style, grammar, and punctuation will particularly benefit from this course.

**AS.491.701. Communicating Climate Change. 4 Credits.**

This elective course will examine the unique challenge of effectively engaging the public on climate change, the most serious environmental issue of our time. A highly politicized and polarizing topic, climate change is often called a wicked problem. It is scientifically complex and while global in nature, the effects of climate change are felt locally, with the most serious impacts disproportionately affecting those least responsible for the problem. What's more, the worst impacts of climate change will occur sometime in the future, but minimizing those impacts will require large-scale and widespread changes to current society.

Students taking this course will compare a range of material representing contemporary climate change communication from books and magazine/newspaper articles to literary journal essays to gain an understanding of how science writers engage, inform and inspire the public. Students will also evaluate social science research that attempts to explain and overcome the challenge of engaging a public that can be in denial, disengaged, disheartened and frustrated. Students will practice effective journalistic methods for gathering information and will experiment with pitching ideas and translating those ideas into articles. They will demonstrate their own strategies for assuring accuracy and for gauging the credibility of their sources.

The course includes a lot of assigned reading as well as writing and writing-prep exercises, and extensive class discussion on Blackboard. This is not a course on the history of climate science, and nor is it a comprehensive survey of the field of climate science. The overall purpose of this course is to produce writers who can generate exceptional articles and essays about climate change. Course activities will help students publish their writing about climate in newspapers, magazines, podcasts, broadcasts, and other venues for the lay public.

**AS.491.707. Prizewinners: The Best Writing about Science, Technology, Environment & Health. 4 Credits.**

Whether they have received a National Magazine Award, a Pulitzer, a Peabody award for electronic media, or other honors, the work in this course offers lessons in reporting and writing for any science writer. Readings may include articles, essays, or books. Included will be guest sessions with prize-winning authors, by video or tape, to discuss how they created their winning work. Readings and guests for each section of this course will be announced, but they might include Pulitzer-winners Diana Sugg, Siddhartha Mukherjee or Natalie Angier, Peabody winner Christopher Joyce, or National Book Award finalist Lauren Redniss. Students join in team or individual presentations, with several options for a final writing assignment.

**AS.491.708. Medicine in Action. 4 Credits.**

This special Residency course based at world-renowned Johns Hopkins Hospital in Baltimore allows students, program alumni, and others to experience the front lines of medicine. Participants spend time observing doctors and nurses in action and may be assigned to follow a practitioner during a shift at the hospital. The course includes meetings with doctors, nurses, and patients, plus a final writing exercise. Previous sections of this course included meetings with winners of the Nobel Prize and Pulitzer Prize.

**AS.491.709. Science in Action. 4 Credits.**

This Residency course takes students to the front lines of scientific research, with a focus on reporting skills, story idea development, and the craft of explanatory writing. Science in Action explores fields beyond medicine and health, including space, environment, energy, climate change, and other topics. The course involves field trips and lab visits, plus video and other links with visiting or out-of-town scientists. This Residency course is held in Washington, Baltimore, or other locations, as announced.

**AS.491.710. In the Field: Science Writing in the Woods, Coasts, & Labs of Mt. Desert Island. 4 Credits.**

Maine's Mount Desert Island, home to Bar Harbor and Acadia National Park, is a place of exquisite natural beauty. With thriving environmental science centers and a world-class genetics laboratory, the island is also a hub of cutting-edge research. This Residency course allows participants to immerse themselves in the region's stimulating natural and intellectual environments while honing their reporting skills, refining their writing artistry, and gathering information for stories. Extensive field excursions will be announced.

**AS.491.719. Technology Tools, Multimedia and Digital Publications for Science Writers. 4 Credits.**

This course explores the tools and theories of multimedia storytelling, with examples from cutting-edge digital media, guest lectures by science communicators, and a lot of hands-on practice. Students critique pieces from the real world to learn how multimedia is being used today. They become familiar with tools to create stories using photos, illustrations, audio, video, animation, and data visualization, and they learn about platforms where this content can find an audience. Each student creates a multimedia package around a single science story to be published in an online magazine. This online course is designed for science writing students, focusing on science, medicine, or technology. A separate, on-site version of this course in Baltimore or Washington is for MA in Writing program students and concentrates on fiction and nonfiction.

**AS.491.748. Principles of Editing. 4 Credits.**

In this writing- and editing-intensive course, you will learn the art and craft of editing science-focused nonfiction stories. Writing exercises and editing projects are designed to mimic what it's like at a real publication, and you will learn to think like an editor as you work through each step in the process of making concise and compelling nonfiction articles—from idea development and draft review to primary editing, copyediting, and proofreading. You will face the myriad decisions editors must consider at every stage—audience, deadlines, grammar, style, delivery method, publication size, website optimization—as you craft your own nonfiction story while editing the work of your colleagues. The course includes insights from guest editors as well as illustrative case studies. This course will benefit any writer hoping to pursue an editing career or wanting to sharpen self-editing skills.

**AS.491.750. Contemporary Science-Medical Writing: Creative and Professional Forms. 4 Credits.**

This core course provides a broad foundation in the diverse forms and venues encountered in contemporary science writing careers. Students learn elements of classic forms, such as essay, profile, news article, and op-ed, and they explore magazines, institutional publications, literary journals, blogs, speeches, and even museum exhibit text. The course covers the differing goals of various forms and how they might be used in multimedia, social networks, and other digital communication. Guest speakers present real-world expertise, with students engaged in discussion, exercises, and writing assignments. Science writing students needing a stronger foundation should complete this course before enrolling in any writing workshop.

**AS.491.751. Marine Science & Science Writing on the Emerald Isle. 4 Credits.**

This Dublin-based residency course, with accompanying Blackboard site, will explore the confluence of sea, science, and writing. During the week-long onsite portion of the course, students will take field trips to labs and sites along Dublin Bay, meet with marine scientists, read and discuss Irish literary works inspired by the sea, and take part in "plein air" creative writing exercises, among other activities. Talks with science journalists and ocean conservation leaders will probe some of the major threats to Ireland's – and the world's – oceans, and the challenges for writers who cover those issues.

**AS.491.752. Advanced Reporting & Writing in Science. 4 Credits.**

This course builds on foundation skills in reporting and writing about science, medicine, or technology by expanding into advanced techniques of research, documents, computer analysis, extended interviews, and other tools. The course also expands knowledge of longer or more sophisticated forms, such as magazine essays, narrative nonfiction, and investigative reporting. Students engage in reporting and writing exercises, which may be discussed in group workshops. With adviser permission, this course may be counted as a workshop. Prerequisite: 491.658 or adviser permission.

**AS.491.754. Science Narratives Workshop. 4 Credits.**

Students in this specialized workshop explore and write science narratives, an approach that joins scientific information and storytelling. Students read and discuss examples by authors such as Rebecca Skloot, Ferris Jabr, and Lee Gutkind, as well as write their own narratives. This course provides a workshop credit for science writers. Prerequisite: 491.658

**AS.491.755. Science Personal Essay and Memoir Workshop. 4 Credits.**

In this specialized workshop, students experiment with memoir and the personal essay as distinct forms and as an exploration of the self. Seminal essays are read to clarify students' thoughts and to help them develop their own voice and style in personal science writing. The topics of health, technology, environment, and other realms of science or medicine will be paramount, whether in reported content or within the personal experience, feelings or ideas of the writer. This course provides a workshop credit for science writers. Prerequisite: 491.658

**AS.491.757. Science Profiles Workshop: Writing About People. 4 Credits.**

This workshop focuses on writing about people involved in science, medicine, technology, or policy. Students analyze models of the form, then report and write profiles of various lengths and purpose, from mini-profiles to quick features to longer, in-depth works. The course includes guest speakers who specialize in the research, interviews, and writing needed for effective, readable biographical works. This course provides a workshop credit for science writers. Prerequisite: 491.658.

**AS.491.758. Current Issues in Science Writing. 4 Credits.**

This innovative elective course focuses on the latest research, issues and challenges in writing about or covering developments in science, medicine, or technology. Topics will vary based on breaking news, research, and changing developments, but they could include climate change, space exploration, digital privacy, or GMOs. The course features interaction with cutting-edge researchers and the journalists who cover them. Each student creates a final writing project on a contemporary issue, with the goal of preparing writers and editors for the fast-paced intersection of today's science and journalism.

**AS.491.781. On the Bay: Exploring the Chesapeake. 4 Credits.**

This Annapolis, Maryland-based Residency course focuses on the shimmering beauty, complex ecology, and environmental pressures of the nation's largest estuary. Field excursions on and around the bay introduce students to scientists, policymakers, and authors who specialize in bay issues, with time allotted for students to report and receive coaching on their own stories.

**AS.491.785. In the Wild: Science Writers Explore Montana's Wilderness and Wildlife Biology. 4 Credits.**

With its snow-capped mountains, icy trout-filled streams, glaciers, bison, and grizzly bears, Montana is a land of rugged natural beauty. It is also home to a unique set of environmental concerns. Those glaciers are melting. Invasive species threaten native habitats. The range and population of the grizzly are hotly debated. Climate change appears to be increasing the size and intensity of wildfires. Students in this residency course will meet with scientists – wildlife biologists, ecologists, and wildfire management experts – who use Montana's lakes, mountains, forests, and animals as their laboratories to explore such issues. The class will take field trips to sites of active research, with possible excursions to a world-class ecology research station on a 30-mile-long lake; a fire science lab where scientists model fire behavior and develop tools for wildfire management; and the Clark and Blackfoot Rivers, site of a Superfund success story and the inspiration for Norman Maclean's *A River Runs Through It*. During the onsite portion of the course, students will practice reporting skills and gather story ideas, engage in craft discussions and creative writing exercises, and be invited to take part in an open mic. Discussions will explore how writers can explain complex, nuanced environmental issues to broad groups of readers, and how writers can evoke the region's lyricism in their prose. For inspiration, the class will study works by the many literary greats (Maclean, David Quammen, Rick Bass) who have used Big Sky country as their muse. The class will be based at the University of Montana in Missoula, noted for its beautiful campus and as the nation's premier institution for the study of wildlife biology.

**AS.491.787. In the Field: Writing about How Science Can Save Our Wild Lands. 4 Credits.**

Springboarding from an initial focus on Mt. Desert Island/Acadia National Park, Maine, this virtual residency course will branch out to examine national lands in several locations throughout the nation. Most of the course's work will take place during an intensive week of real-time activities (through Zoom and Blackboard). Mornings will include presentations from experts such as researchers discussing their latest laboratory and animal-related science; park personnel explaining the biggest environmental issues facing the national parks; and magazine writers and editors covering national park challenges and successes in multimedia. These talks and Q&A time will provide some of the writing fodder and interview subjects students can use to craft stories during this course and beyond. Instructors will present lectures and discussions on the tools and techniques of writing nature/science/national lands-related nonfiction and science-writing articles, essays, and books. Instructors will also lead small-group discussions about the lessons that can be drawn from readings assigned in advance for the course and to facilitate student writing. Each day will include writing assignments as well as personal time for writing/reflection, research, interviews, and observation/experience as students are able, based on their location and allowable travel. The week will end, as all residencies do, with a student reading open to the Hopkins community, highlighting prose created during this unique week. Following the intensive week, students will complete a final reporting/writing assignment.

**AS.491.802. Thesis and Careers in Science Writing. 4 Credits.**

This final degree program course involves the creation of a thesis and a final capstone experience that prepares a student for a writing career. Students usually enroll in this course after completing all other cores, workshops, and electives. Thesis: Each student's thesis is created from work in earlier courses. Students revise and refine an individual portfolio that includes creative writing, journalism, multimedia and communication writing. The first draft of a thesis is due in the second week of the thesis term; students spend the term revising that work under the direction of a one-on-one thesis advisor. Capstone: The group experience of the course requires each participant to develop a career plan that includes personal goals such as publication, job applications, or career advancement. Other capstone experiences may include attending science writing events or seminars, publication of a course magazine or journal, and discussions of the changing business of writing. The Science Writing Program also may propose an optional mini-residency for thesis students that includes commencement and other onsite experiences at Johns Hopkins in Baltimore and Washington. Note: All thesis students should submit a Science Writing Thesis Planning Form at least one month before the course begins. See the Science Writing Program website for more information.

**AS.491.807. Independent Study in Science Writing. 4 Credits.**

An independent study is reserved for science writing students who have special interests not covered in the program's curriculum. Most independent studies involve a student working one-on-one with a faculty member or other writer or editor. Students should submit an Independent Study proposal at least 60 days before the start of any term. The proposal must include work equivalent to a full-semester, graduate-level course; interested students should consult their advisor well in advance. Only students who have completed four courses or more are eligible to propose an independent study, and only a limited number are approved each year. The tuition for an independent study is the regular, single-course rate for the term in question. With advisor approval, this course counts as an elective or workshop. For more information, see the Science Writing Program website.

**AS.491.808. Internship in Science Writing. 4 Credits.**

Internships are available to select students with advisor approval. Students should submit an internship proposal well in advance. With the advisor's help, students may develop their own internship where they live, or they may apply for existing internships at publications, companies, agencies or elsewhere. Internships usually are reserved for students who have completed four courses or more. In most cases, an internship counts as an elective.

**AS.491.888. Thesis Continuation. 4 Credits.**

This course is for students who completed 491.802 Thesis and Careers in Science Writing but failed to finish an approved thesis and were not approved for an incomplete. If both conditions are met, students must register for this course and pay its accompanying fee for every term (including summer) until a final thesis is approved.