OVERVIEW

The undergraduate research experience opens horizons for students to envision pursuing scholarship as a profession. What does it mean to be a professional scholar? How have such conceptions changed through time, and what might the future hold for those who aspire to a “life of the mind”? The academic research profession increasingly calls on scholars to explain their work to researchers from other fields, frame their research findings as useful contributions to society, and interact with public audiences. Hence a communication-based perspective provides a useful point of departure for students from the natural sciences, social sciences, and humanities alike to explore these opportunities and challenges in a collaborative, interdisciplinary seminar setting.

PREREQUISITES

Regarding enrollment eligibility, see: [http://www.honorscollege.pitt.edu/course-eligibility](http://www.honorscollege.pitt.edu/course-eligibility). Students in other research programs (e.g. OUR, B.Phil., Brackenridge, UHC Community-Based Research Fellowships) are welcome, but it should be understood that the proseminar is designed to complement, not supplant, the focused learning experiences provided in these other programs. The research opportunities listed above facilitate specific research projects supervised directly by a mentor. This proseminar, by way of contrast, enables students to engage questions that transcend their particular research initiatives and implicate broad issues concerning the academic research profession writ large. Students should be apprised that the course will integrate mindfulness meditation exercises and they should come to the first class meeting having already read Herman Hesse’s *The Glass Bead Game*.

OBJECTIVES

In this seminar, we will:

- Frame undergraduate research in historical and contemporary contexts, with particular focus on how the enterprise has changed since the landmark Boyer Report in 1998.
- Recognize how emergent interdisciplinary research fields (such as “digital humanities” and “translational medicine”) blur traditional distinctions between the natural sciences, social sciences, and humanities, and appreciate how such transformations present novel opportunities (as well as daunting challenges) to professional scholars.
- Appreciate ways that the "open access" movement creates opportunities for circulation of scholarship, strains the boundaries of copyright law, presents novel challenges for the publishing industry, and makes possible new metrics of scholarly authority.
• Come to terms with the myriad ways that scholarly productivity and impact can be measured, and begin to appreciate the entailments and implications of using particular metrics in certain contexts.
• Develop understanding of the term "public intellectual," and appreciate the texture of controversy it tends to generate in academia and beyond.
• Using practice with mindfulness meditation, appreciate ways to exercise the brain in order to improve concentration and cognitive control in an age of information saturation and social media-driven multitasking.
• Pursue informed and charitable readings of critical perspectives that tend to view the “professoriate” with suspicion.
• Hone written and oral communication skills, including question construction, extemporaneous speaking, speaking from notes and writing crisp prose for diverse audiences.

The interdisciplinary seminar will also afford students to pursue particular learning objectives, tailored to their own disciplinary backgrounds:

<table>
<thead>
<tr>
<th>Natural Sciences</th>
<th>Social Sciences and Humanities</th>
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<td>• Assess the extent to which your chosen discipline has become “post-academic” (Ziman) and understand the possible implications of this for professional development.</td>
<td>• Cultivate an ability to explain the value of your scholarly work to audiences skeptical about “knowledge for knowledge sake.”</td>
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<tr>
<td>• Appreciate how humanities and social science learning may leverage work in the natural sciences (e.g. MCAT exam, translational research).</td>
<td>• Realize ways that your discipline’s possible reliance on the publication of scholarly books as a quality metric may be at odds with trends in the publishing and business intelligence industries.</td>
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TEXTS


• Articles, book chapters and conference papers available in electronic format for fair use download through Courseweb at [http://www.courseweb.pitt.edu](http://www.courseweb.pitt.edu)

REQUIREMENTS

• *Interactive Reading* (30% of total grade). During our first class meeting, students will form pairs that include one Inquisitor and one Pontificator, with each pair being responsible for preparation and presentation of an interactive reading performance for a given week. One week prior to the scheduled discussion date for assigned materials, the Inquisitor will submit two well-developed, searching and provocative questions to the Pontificator via Courseweb. Although these questions may refer to outside materials, their primary focus should address significant issues raised by the assigned reading. The Pontificator's written answer to the one question they select will be posted to Courseweb at least 24 hours before of the scheduled oral performance. During the 15-minute oral performance in class, the Pontificator will begin by presenting orally their answer to the Inquisitor’s first question. After three minutes, the audience will vote whether to hear a follow-up question from the Inquisitor or to have the Pontificator continue their answer. Following this six-minute period, general discussion will ensue. Inquisitor Questions will be evaluated based on the degree to which they: 1) exhibit evidence of engagement with the reading material; and 2) contain challenging and thought-provoking concepts (i.e. stay away from purely descriptive questions). Pontificator Answers will be evaluated based on the degree to which they: 1) exhibit evidence of engagement with the reading material; 2) respond to questions provided; and 3) show creative, original thought. Each student will play the role of Inquisitor once (15% of grade) and Pontificator once (15%).
• **D-Scholarship Submission** (30% of total grade). The University of Pittsburgh Library’s “D-Scholarship” (Digital Scholarship) program was launched in summer 2009. The Pitt D-Scholarship website (http://dscholarship.pitt.edu/) enables any Pitt faculty member or student with a valid username to upload scholarly content that will be publicly available and searchable via Pitt Cat, Google, and other databases. Proseminar readings and discussions will compare and contrast the Pitt D-Scholarship initiative with similar institutional efforts (e.g. at Harvard University and Boston University), consider the program’s intellectual property implications, impact on creative economies, and possibilities for enhanced community engagement. As the Pitt D-Scholarship program offers a concrete opportunity for students to experiment with and reflexively interrogate opportunities for open access scholarship, proseminar participants will deliberate about how best to execute a D-Scholarship “surge,” where students take the lead in organizing and executing a substantial volume of contributions to the D-Scholarship website. After selecting a digital artifact (e.g. article, book chapter, preprint, audio clip, photograph) and securing necessary permissions, students will present the artifact to the class, along with a short written briefing that outlines the rationale for the artifact's inclusion in the D-Scholarship database. Peer deliberation during seminar will guide subsequent submission of the digital artifact and revision of the supporting brief that will then serve as a first draft for the student’s final paper.

• **Reading Quizzes** (10% of total grade). Short quizzes will be given at the beginning of most class periods. These will be designed to test student comprehension of the assigned reading material for that day. It is important to be on time, as there will be no make up quizzes.

• **Final Paper** (30% of total grade). The final paper (12-15 pages, typed, double spaces, with thorough and accurate bibliographic citations, according to the style most appropriate for the student’s discipline) will be an outgrowth of either the student’s interactive reading or D-Scholarship submission exercise. Specific topics and paper organization will be discussed during one-on-one planning meetings with Professor Mitchell.

**ACADEMIC INTEGRITY**
All students are expected to adhere to the standards of academic honesty. Any student engaged in cheating, plagiarism, or other acts of academic dishonesty would be subject to disciplinary action. Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity http://www.provost.pitt.edu/info/ai1.html. This may include, but is not limited to the confiscation of the examination of any individual suspected of violating the University Policy.

**DISABILITY SERVICES**
If you have a disability, contact both your instructor and the Office of Disability Resources and Services (DRS), 216 William Pitt Union, 412-648-7890/412-383-7355 (TTD) as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

**GRADING**
Data show that students enrolled in University Honors College courses tend to earn higher grades than students do in non-honors sections of the same course. This is not surprising given the motivation of students in the honors courses to work harder and learn more.

**STATEMENT ON CLASSROOM RECORDING**
To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student’s own private use.”
SCHEDULE OF MEETINGS, THEMES AND ASSIGNED READINGS

JANUARY 10

Undergraduate Research: The Very Idea
Institutions of higher learning are making redoubled efforts (especially since release of the 1998 Boyer Commission Report) to integrate undergraduate students into their research initiatives. What are the forces driving the curricular innovation, and what forms does the innovation take? How do undergraduate research opportunities at different institutions (e.g. liberal arts colleges vs. public research universities) compare? In what ways are various disciplines (across the natural sciences, social sciences, humanities, and professional schools) adapting in light of these broad institutional shifts? What is the upshot of all of this for the individual undergraduate student seeking to pursue research opportunities, and what opportunities exist at Pitt?


JANUARY 17

The Glass Bead Game
Herman Hesse’s Nobel Prize-winning *The Glass Bead Game* is widely considered to be the great German writer’s *magnus opus.* Published in 1943, and set in an imagined future somewhere around the start of the 25th century, *The Glass Bead Game* tells the story of a fictional province of central Europe called Castalia. Inhabitants of the “pedagogic province” of Castalia devote their energies to running a boarding school for boys and playing the Glass Bead Game, a highly refined and complex intellectual exercise designed to produce sublime performances of synthetic thought. Hesse’s story about life within Castalia, and relations between Castalians and the “outside” world has been revered (and vilified) as a touchstone for contemporary discussions about the role of professional scholarship in society. In addition to discussing the novel itself, students will have opportunities to engage some of this secondary literature by reading articles that use the *Glass Bead Game* as a point of departure to frame ongoing conversations in disciplines such as biology, medicine, English, philosophy, and education.

JANUARY 24

The Memex and Mindfulness in The Life of the Mind

Electrical engineer Vannevar Bush is most well known for conceiving of, then directing, the Office of Scientific Research and Development. This organization implemented the “Manhattan Project” that built the atomic bomb during World War II. Following the war, Bush published in 1945 an essay “As We May Think,” in which he theorized invention of an electronic information database called the “memex.” Bush saw the memex as a potential tool that could help scholars deal with the growing problem of information overload, freeing them from the mundane tasks of information retrieval to dwell more intently on the sort of deliberative, reflective thought he said was necessary to “better review [their] shady past and analyze more completely and objectively [their] present problems.” Some view Bush’s memex as a precursor to the internet, which has introduced a whole set of vexing challenges for contemporary scholars seeking to stay afloat in an age of information overload. Promising work in cognitive science, computer science, and information science suggests possible strategies, such as mindfulness mediation, for scholars to hone attention and preserve time and space for contemplative thought in our accelerated digital age.


JANUARY 31

Ingenium and Imagining Professional Futures

A common question for undergraduate students pursuing multiple majors and studying widely across disciplines is often: How does it all fit together? Italian political philosopher Giambattista Vico (1668-1744) proposed that students could develop creative ability to handle this perennial dilemma by cultivating ingenium, the human faculty for perceiving common threads that run through apparently disparate topics and imagining how such connections open future possibilities. That Vico was a “Royal Professor of Latin Eloquence” testifies to the centrality of rhetoric in development of modern liberal arts education. Ralph Waldo Emerson’s “The American Scholar” oration (1837), called the “literary Declaration of Independence,” develops many of Vico’s themes in the context of the emergent tradition of American higher education. How does Vico’s view of the educated person as someone who “knows that they do not know” compare with the Cartesian emphasis on mastery of a particular set of knowledge within a subject domain, and what are the implications and entailments associated with organizing your professional orientation to either view?

**February 7**

*The Open Access Movement and Economics of Scholarly Publishing*

In 2004, the U.S. House Appropriations Committee recommended that the National Institutes of Health (NIH) develop a policy requiring free online access to results of NIH-funded research studies. At first (2005) researcher compliance with the resulting NIH public access policy was voluntary, but in 2008 the policy was made mandatory. Numerous institutions and associations (including Boston University, Harvard University, and the University of Pittsburgh) have followed suit, enacting variations of the NIH public access policy, with widespread variation of approach (e.g. “opt-in” vs. “opt-out” models). Such developments highlight the importance of understanding dissemination of scholarship as a communication challenge, one that calls upon scholars to analyze the audiences they seek to reach and invent circulation strategies for reaching them. The movement to make scholarship widely available in free online databases has stimulated opposition from some quarters, with much of the ensuing argumentation focusing on copyright law. Some advocates, such as representatives of the academic publishing industry, favor rolling back the NIH public access policy. Other interlocutors push for even more open access. What are the key arguments for each side? Which do you find most persuasive? What is at stake in the controversy? How does it affect you?

- University of Pittsburgh Senate Library Committee, Minutes of Meeting, October 6, 2008.
- Science Commons, "Scholar's Copyright Addendum Engine," http://scholars.sciencecommons.org/

**February 14**

*Protagoras’ “Human Measure” Fragment*

Having lived during a time when the Greek written phonetic alphabet was a relatively new invention, Protagoras left precious few fragments of his thought for future generations so ponder. In one of the surviving fragments, Protagoras says: "Man is the measure of all things: of things which are, that they are, and of things which are not, that they are not." Here, Protagoras bridges *mythos* and *logos*, proposing that through *dissol logos*, the process of using human pro-con argumentation to generate insight, humans can reach valuable measurements. Protagoras’ relevance is heightened by trends in academia that proliferate metrics for scholarly authority in a digital age of online publishing. Hence argumentation studies, a thriving area of scholarship in the field of communication, becomes an especially useful resource for scholars from all backgrounds to begin understanding the myriad challenges posed by proliferation of new metrical tools.

Scholarly Authority 3.0

The advent of digital scholarship and surging popularity of online databases capable of aggregating and analyzing such scholarship have yielded new ways of measuring the impact of individual scholarly publications, and even individual scholars. What are these new metrics and how do they work? Will they affect future hiring, tenure, and promotion decisions? What implicit values do the metrics embrace? Analysis of these questions can serve as points of departure for broader discussions regarding what recent trends portend for young scholars intending to pursue a life of the mind.


Digital Humanities

A longstanding view held in academe is that computational methods of research (including computer programming) are appropriate only for the natural and social sciences. Emergence of an interdisciplinary field called “digital humanities” challenges these presumptions, with a wide array of diverse humanities scholars utilizing computational research methods to analyze artifacts such as digital book archives, historical maps, and speech transcripts (Professor David Birnbaum’s University Honors College course has produced some of the most exciting work – see http://dh.obdurodon.org/). The digital humanities field is generating much interest, discussion and even debate about its proper scope and trajectory. These conversations provide a fecund point of departure for broader discussions regarding the changing relationship between traditional fields of study in the academy.

- Susan Brown, Patricia Clements, Isobel Grundy, Stan Ruecker, Jeffery Antoniuk, and Sharon Balazs, “Published Yet Never Done: The Tension Between Projection and Completion in Digital Humanities Research,” 3 Digital Humanities Quarterly (Spring 2009).
March 7

Research Ethics
How should the professional researcher interact with human subjects? The salience of this question was highlighted after World War II, when grotesque excesses in medical experimentation were highlighted in the “Nuremberg Doctors’ Trials,” where Nazi medical research practices were laid bare for the world to see. To install safeguards designed to avoid repeat of such horrors, the international research community established a code of ethics, now applied by Institutional Research Boards housed in research institutions. Students will gain an opportunity to experience how the University of Pittsburgh interprets and expresses these research norms, as they complete an online training module designed to teach Pitt students about the ethics of conducting research involving human subjects. How might grasping the dynamics involved in the famous Bernard Fisher case deepen understanding of the complex interplay between politics and ethics in the human subjects research context? How do the IRB principles map practically onto different disciplines, especially those in the humanities, where laboratory experimentation is rare?

- Complete “Undergraduate Student Researcher” track for University of Pittsburgh Institutional Research Board OSIRIS training (3-5 hours): [http://www.irb.pitt.edu/osiris/citi.aspx](http://www.irb.pitt.edu/osiris/citi.aspx)

Research Integrity in the Age of “Post-academic Science”
Once thought of as an activity conducted by lone figures conducting independent research in cloistered laboratories, science is changing dramatically as the scale of experimentation rises, the size of research teams grows, and corporate funding increasingly shapes research agendas. How do these trends mark a new age of what John Ziman calls “post-academic” science? Taking medical research as an example, how does corporate sponsorship of research affect science? Do strategies such as mandatory funding disclosure statements effectively safeguard the scientific process from potential corruption?


March 21

March 28

Public Intellectuals: An Endangered Species?
Who are today’s public intellectuals how do they stack up against their predecessors? Has the very notion of public intellectualism changed as the nature of academic life and public deliberation has evolved? Some commentators diverge from Posner and Jacoby’s pessimistic assessments regarding the current state and future prospects for public intellectual work. Where are the key points of cleavage and how can they inform reflexive analysis of publicly engaged rhetorical scholarship?


April 4

Hinge Terms and the Translation of Scientific Facts into Public Arguments
How should a scientific article be written? Certain expectations regarding form, content and style are conveyed from peer reviewers to authors during editorial correspondence. One such expectation is the notion of “reticence,” that scientists should express their findings in a reserved and cautious voice that is consistent with core scientific value of objective skepticism. What happens when this principle of “scientific reticence” conflicts with a scientist’s belief that they have a moral obligation to voice publicly their research findings in a fashion that is intended to shape more affirmatively discussion about a pressing social issue beyond the confines of academic science? The case of climatologist James Hansen provides an excellent opportunity to explore these questions. Until roughly 2004, Hansen embraced scientific reticence when reporting his findings regarding climate change. After that, he pursued a number of strategies, such as writing popular books, recording TED talks, and even including “hinge terms” (a concept coined by John Lyne), in the discussion sections of his scientific articles to participate more directly in public argument on energy policy. By studying the ensuing controversy (which is more about Hansen’s interpretation of his role as a professional scientist, less about the more general issue of whether humans are causing rapid climate change), we will gain perspective on several key seminar themes.

- James Hansen, “Dangerous Reticence: A Slippery Slope” (Chapter 5) in Hansen, Storms of My Grandchildren: The Truth about the Coming Climate Catastrophe and our Last Chance to Save Humanity (New York: Bloomsbury, 2009):
APRIL 11

Translational Medicine
In 2003, the National Institutes of Health announced its Roadmap Initiative, emphasizing: (1) New Pathways to Discovery, addressing the need to understand complex biological systems; (2) Research Teams of the Future, recognizing the need for researchers to move beyond their individual disciplines and explore new organizational models for team science; and (3) Reengineering the Clinical Research Enterprise, focusing on recasting the entire system of US clinical research. As a part of this third theme, the NIH made the relatively new field of translational research a priority, allocating resources to promote training and develop a support structure for the field. The field of "translational medicine" focuses on the task of converting basic scientific data into practical applications that improve human health in applied settings. While many "benchtop-to-bedside" research pathways have been developed in “T1” translational medicine designed, for example, to bring drugs to market following advances in basic science, vehicles to facilitate “T2” translation that convert scientific data into clinical and community interventions designed to improve the health of human populations have received less attention. As these forms of T2 translational medicine implicate social, political, economic and cultural factors, they require "integrative" research that places a premium on communicative dexterity enabling translation of ideas across differences and facilitating cooperative work by interlocutors from heterogeneous backgrounds from disciplines such as psychology, economics, public health, communication, philosophy, sociology, political science and others. What opportunities and challenges are raised by emphasis on such integrative, trans-disciplinary efforts? How might one understand what it means to be a professional translator by unpacking and interrogating the presumptions and entailments of the translation metaphor?


APRIL 18

Public Sociologies and Physician-Citizenship
Professional initiatives in sociology and medicine have sought to integrate public engagement as a part of scholarly training and practice. The 2004 American Sociological Association (ASA) Convention embraced “public sociology,” “a sociology that transcends the academy,” or “public sociologies.” This uptick in institutional support for public sociologies has stimulated a good deal of reflexive debate, including sympathetic commentary by sociologists such as Amitai Etzioni and Herbert Gans, as well as skeptical arguments from colleagues including Kristin Luker and Judith Stacey. Similar patterns of professional initiative and ensuing controversy can be charted in medicine, where—also in 2004—a trio of scholars published in the Journal of American Medical Association a call for physicians to embrace a model of professional responsibility that emphasizes the importance of public engagement and citizenship. As academic research becomes increasingly bound up in the fabric of politics, national security, economics, and public health, professional norms tend to shift. What are the civic responsibilities of professional researchers in this complex milieu? To what extent do these responsibilities create rhetorical situations that call on researchers to produce public discourse? Are there basements (minimum duties) and ceilings (reasonable limits to those duties) that can be fashioned and put into practice?

- Forum exchange between Herbert Gans, Murray Hauseknecht Michael Burawoy, Amitai Etzioni and Rick Cherwitz in American Sociological Association Footnotes (selected portions).

**APRIL 25**

*Final Class Meeting*