Searching for A Just Machine

Instructor: Perry Alexander  
Monday, 4:00-5:15PM (10 class sessions)
Seminar Assistant: Rachel Hagan

Seminar Description: Searching for a Just Machine is a reference to Donald Fagen's album The Nightfly, a seminal pop album about the future. In the track IGY he refers to "a just machine to make big decisions, programmed by fellas with compassion and vision" when describing a perfect future world. The objective of this class is to take an intellectual walk starting from the early 1900's and David Hilbert's challenge problems in search of what we might call our Just Machine. Specifically, we will discuss formalism, completeness, and consistency, the halting problem, Goedel's inconsistency proofs, and Turing Machines. Along the way we will look at the lives of Hilbert, Goedel, and Turing as well as readings from Douglas Hofstadter's *Goedel, Escher, Bach*.

Who would most benefit from this seminar: Students interested in languages, philosophy of mathematics, computation, and reasoning. No computing background is required.

Do You Like Good Music? Discussing the Merits of Pop, Rock, Etc.

Instructor: Brad Allen  
Tuesday, 1:00-1:50PM (14 class sessions)
Seminar Assistant: Mackenzie Haun

Seminar Description: We will be taking a freewheeling approach to the art of discussing music. Students will read classic essays about music, listen to music, probably watch some videos, and definitely talk about music. The objective of the class is to dig a little bit deeper into why we like what we like, hate what we hate, or somehow remain passively indifferent. Be prepared to discuss music and what it means (or doesn't mean) to you.

Who would most benefit from this seminar: Anyone wanting to read and discuss classic essays about popular music most likely would enjoy this course.

Seeing the Invisible: Inferring Particle Physics

Instructor: Philip Baringer  
Wednesday, 9:00-10:15AM (10 class sessions)
Seminar Assistant: Clara Bernauer

Seminar Description: No one has ever seen an electron or a quark, but it is quite useful to assume they exist. In this seminar we’ll explore the experimental foundations of subatomic physics and how theories interact with observations. How, for example, did people come to believe in the existence of neutrinos – invisible particles that rarely interact with matter? What makes us think that dark matter, which has never been directly observed, makes up 90% of the matter in the universe?

Who would most benefit from this seminar: Science majors

Chemistry in the Context of Nanotech (R)evolution

Instructor: Misha Barybin  
Friday, 2:00-2:50PM (14 class sessions)
Seminar Assistant: Tomara Konstantino

Seminar Description: One of the far-reaching scientific achievements of the past century was the birth of what we today call Nanotechnology. Nanotechnology as a field involves two distinct yet synergistic branches: nanoscale materials and molecular nanotechnology. Technology of nanoscale materials
involves preparation and applications of materials with particle sizes below 100 nanometers. Molecular Nanotechnology involves “bottom-up” design and assembly of functional materials from individual molecules. The students enrolled in this seminar will consider the critical role of Chemistry in the nanotechnological progress relevant to biomedical (e.g., drug delivery and diagnostic imaging), solar energy, functional materials, and nanoelectronics fields. They will reflect not only on the new fundamental scientific horizons, but also on any likely societal and ethical implications of the changes to be brought about by the emerging transformative discoveries. Introduction of various majors relevant to chemistry careers, particularly in an interdisciplinary environment, will be integrated in the course as well.

Who would most benefit from this seminar: The seminar should be of particular benefit to freshman considering Chemistry, Biology, Chemical Engineering, Pre-Med, and Pre-Pharmacy Programs at KU.

Flying in the face of reason
Class # 24941
Instructor: Dave Besson Friday, 2:00-2:50PM (14 class sessions)
Seminar Assistants: Tristan Brandt, Mary Joyce

Seminar Description: We like to believe that we are living in an enlightened Age of Reason. Nevertheless, there are numerous cases, spanning many cultures, where popular sentiment on some topic clearly runs counter to the overwhelming weight of scientific data and evidence. We will consider case studies, as well as the propaganda machines that are often amassed to sway popular opinion.

Who would most benefit from this seminar: Anyone who is a) interested in politics, b) opinionated, c) outspoken.

The Societal Impact of Modern Technology
Class # 25039
Instructor: Kyle Camarda Monday, 12:00-12:50PM (14 class sessions)
Seminar Assistant: Mariana Vasquez Sanchez

Seminar Description: This seminar will examine the technological breakthroughs of the 20th century, and the engineers and scientists who made them. We will explore the birth of the modern chemical industry, the invention of nuclear power, the beginnings of computing, and many more novel engineering developments. These inventions will be considered not only scientifically, but also from an ethical and societal viewpoint.

Who would most benefit from this seminar: Engineering and science students would most likely be interested in this seminar. However, anyone who is concerned about the role of technology in our daily lives might be motivated to take this seminar also.

"A Farewell to Arms": Then and Now
Class # 25015
Instructors: James Carothers/Michael Valk Wednesday, 4:00-5:00PM (14 class sessions)

Seminar Description: The KU Common Book for 2015-16, is A Farewell to Arms, Ernest Hemingway's 1929 novel of love, war, and loss. This text will be the focus of our Seminar. First we shall read the original text, including the 39 variant endings Hemingway wrote. This first reading will emphasize important characters, scenes, episodes, and subjects. Next, we shall look at some of these same figures and events through contemporary issues and current academic disciplines, such as medicine, battlefield "meatball" surgery, World War I history, Italian geography, military protocols, naturalism vs.
existentialism, plays, films, and journalism, Hemingway in Kansas City and Italy, the complex of love, courtship, seduction, sex, and manipulation that overwhelm Frederic Henry and Catherine Barkley. Finally, each student will write a paper on one such subject, comparing contemporary values and practices with similar matters presented (or advocated?) to the readers of the original novel. These papers will then be presented to the entire class.

Who would most benefit from this seminar: Anyone who likes to read challenging modern fiction. All Hemingway fans are welcome, as well as those who may have some doubts about Hemingway himself, as well as those who think “Fredrick Henry as a hero? . . . not so much.”

Orcs and Mr. Spock: The “other” in Science Fiction and Fantasy
Instructor: Michele Casavant  Wednesday, 3:00-3:50PM (14 class sessions)
Seminar Assistant: Kelsey Consolver

Seminar Description: Orcs and Mr. Spock: The “other” in Science Fiction and Fantasy
This course is structured to help you become more critically aware of the society and culture in which you live. Through analyzing popular culture, such as film, TV, and short stories, you will gain a better understanding of certain ideologies and beliefs that are experienced and expressed by many Americans. We will also explore different types of cultural theory, which will aid in our analysis and our critical approach to culture. In addition, this course will help you understand how our American identities are dependent on many interconnecting forces, such as race, gender, class, histories, sexuality, and others. We will also scrutinize science fiction and fantasy and examine how these cultural texts reflect current ideologies and beliefs.

Who would most benefit from this seminar: This course if for anyone who wants to exam popular culture critically, or just loves science fiction and fantasy and is interested in a new way of seeing this type of text. It is a great course for engineers, students interested in the humanities, and everything in-between.

Using Data to Understand How People Respond to Incentives
Instructor: Keith Chauvin  Tuesday, 4:00-4:50PM (14 class sessions)
Seminar Assistant: Jose Aldana Herbas

Seminar Description: Effective management practices in all areas of business require managers to understand how people respond to incentives and anticipate the effects of incentives on the behavior of customers, employees, and others. This seminar examines the explanation provided by economics about how people respond to incentives. We will use data from naturally occurring situations and controlled experiments run in class to derive knowledge about this aspect of human behavior.

Who would most benefit from this seminar: Business majors. Students interested in economics and psychology would also benefit, but business majors is the first preference.

American Idol: Legacy, Leadership, & Collections
Instructor: Audrey Coleman  Monday, 8:30-9:30AM (14 class sessions)
Seminar Assistant: Andrew Poehling

Seminar Description: A proud native Kansan, Bob Dole served the state of Kansas in the U.S. Congress from 1961-1996, and to date is the longest serving Senate Republican Leader in U.S. History. Using the
collections of the Dole Archives, we’ll explore Dole’s broad legacy as it relates to contemporary politics and culture, Dole Institute programs, and other area collecting institutions, at KU and beyond. Special focus will be given to the Americans with Disabilities Act, disability rights and legislation, in recognition of 2015 as the 25th anniversary commemorative year of the ADA.

**Who would most benefit from this seminar:** Anyone, especially undecideds. An underlying current of this seminar is thinking critically to relate seemingly unrelated subjects with one another, being receptive to unexpected and serendipitous inspiration, cultivating curiosity, and considering the path towards becoming the sum of your parts.

**Being between: be(coming) in College**  
**Class # 24934**  
**Instructor:** Anne Dotter  
Wednesday, 4:00-4:50PM (14 class sessions)  
**Seminar Assistants:** Ally Jones, Danielle London, Kellor Yde

**Seminar Description:** This very first Honors Students led freshman seminar will focus on the plethora of available masculinities on US campuses and how the new environment informs the development of one's identity. We will draw from the disciplines of media studies, gender & sexuality studies, and American studies to shed light on the structures underpinning and constraining the development of individual identities with an eye toward what is needed to make the KU environment more welcoming to all.

**Who would most benefit from this seminar:** Young men open to thinking about the process of becoming who they want to be!

**Art and the Biosciences**  
**Class # 25012**  
**Instructor:** Stephen Goddard  
Tuesday, 2:00-2:50PM (14 class sessions)  
**Seminar Assistant:** Loic Njiakin

**Seminar Description:** The arts and sciences have many areas of common interest. Both are often driven by curiosity and a wish to understand and describe the world more fully. Both can, and often do, incorporate elements of playfulness wonder and experimentation. In this course we will look at the connections between the arts and sciences through case studies focusing on specific artistic projects. Our emphasis will be on the arts and the biological sciences but we will also consider a few artists who have been deeply involved with mathematics and physics. Preparation for each session will be a mixture of short readings and previewing on-line resources.

**Who would most benefit from this seminar:** This course will benefit students who are interested in: the broader humanistic impact of the sciences, the notion of artistic practice as research, the possibilities of collaborative, cross-disciplinary research.

**How and Why You Should Learn a Foreign Language [SLLC Inauguration Edition]**  
**Class # 25018**  
**Instructor:** Marc Greenberg  
Tuesday, 8:00-9:15AM (10 class sessions)  
**Seminar Assistants:** Lizzie Cox, Frank Kim, James Tandy

**Seminar Description:** This course introduces you to KU’s remarkable range of foreign-language-learning opportunities and provides not just a sampling of some of its 40 languages (this year you will have lessons in Arabic, Bosnian/Croatian/Serbian, Farsi/Tajik, Italian, KiSwahili, Mandarin, and Portuguese), but also gives you context for how language and cultural knowledge enrich your life and your career. We
will explore strategies for fun and efficient language acquisition as well as understand how learning one language can help you more easily acquire further ones.

**Who would most benefit from this seminar:** Students interested in being globally literate.

**Eco-Fueled: energy law, social entrepreneurship, and environmental technology**  
*Class # 24980*  
**Instructor:** Edward Healy  
**Seminar Assistant:** John Handley

**Seminar Description:** In a short time, human species have transformed the earth in an unparalleled way. Through population growth, natural resources, technology and commerce, we have affected the ecosystems in which we reside. This course analyses the environmental changes occurring, the human factors affecting the earth's ecosystems, the legal framework affecting environmental issues, existing and emerging technology, and the economic and political pressures that shape environmental policy.

**Who would most benefit from this seminar:** Students interested in challenging their critical thinking and writing skills, learning more about interdisciplinary careers, environmentalism, law, social utility, business and technology, and students who want to explore different fields of study.

**Water, Energy, Agriculture, Environment and Public Policy—Opportunities and Tradeoffs**  
*Class# 25042*  
**Instructor:** Mary Hill  
**Seminar Assistant:** Adam Yoerg

**Seminar Description:** This interdisciplinary Freshman Honors seminar aims to strengthen the student's knowledge base about the relationship between water supply and demand, global energy systems, agricultural productivity, impact on the environment, and public policy. This course provides a basic introduction to how water, energy, food, and environmental policy is motivated, designed and implemented in the U.S, including identification of the major players.

**Who would most benefit from this seminar:** Students who have ever wondered where the water from the tap, electricity activated by the wall switch, and the food at the grocery store comes from.

**Targeted Killing in Drone Warfare**  
*Class # 24984*  
**Instructor:** Michael Hoeflich  
**Seminar Assistants:** Will Admussen, Madeline Level

**Seminar Description:** The focus of the seminar will be on the theory and practice of "targeted killing" by the Unites States since 2001 and the development of unmanned drones as the primary means of waging such warfare. We will look at the history of the development of drones from a technical, political, and strategic perspective as well as the domestic and international legal rules that apply to the use of drones for targeted strikes against individuals. The primary text for the course will be Richard Whittle, Predator (2014).

**Who would most benefit from this seminar:** The course is well suited to students studying engineering, history, political science and other areas that involve public policy issues. Its is also appropriate for students interested in careers in the law, military, and international affairs.
The Chemist’s War – Chemical Weapons in World War I and Beyond

Instructor: Tim Jackson  Monday, 3:00-3:50PM (14 class sessions)

Seminar Assistant: Emmaline Lorenzo

Seminar Description: Although chemical compounds have seen use as weapons for thousands of years, World War I (WWI) marked the first use of modern scientific principles to develop and employ chemical weapons, with devastating results. In this seminar, we will discuss the chemistry, and the chemists, that contributed to “The Chemist’s War”. Through discussions and assigned readings this course will examine the development and use of chemical weapons in WWI, WWII, and various conflicts of the late 20th century (e.g. the Iran-Iraq war and the recent conflict in Syria). The course will also draw from the biochemical literature to explore the physiological basis for chemical weapon’s mode of action. Also discussed will be current efforts aimed at developing new science and technology to deal with stockpiles of chemical weapons.

Who would most benefit from this seminar: This seminar would be most appropriate for students from STEM fields (particularly chemistry, chemical engineering, and biochemistry). Students interested in 20th century history would also benefit from this course.

Baseball in the Movies

Instructor: Mark Johnson  Thursday, 9:15-10:30AM (10 class sessions)

Seminar Assistant: Molly Bernard

Seminar Description: Baseball has been a fixture of American sports and culture since the Civil War. Hollywood has examined baseball from all angles: the hero, fantasy, class rivalry, economic distinctions, race, and gender. We will study a number of famous baseball movies, including The Natural, A League of Their Own, and Sandlot, to see how they portray baseball as a reflection of American society. We will also read Bernard Malamud’s classic baseball novel, The Natural, on which the movie of the same name was based.

Who would most benefit from this seminar: Anyone who likes movies; anyone who likes baseball; anyone who doesn’t understand baseball, but would like to.

So You Want to be a Writer, Huh?

Instructor: Mary Klayder  Wednesday, 4:30-5:20PM (14 class sessions)

Seminar Assistants: Ellen Bertels, Crystal Bradshaw, Victoria Calderon

Seminar Description: So You Want to be a Writer, Huh? will be celebrating its 20th anniversary next fall. The seminar introduces students to three creative writing genres - fiction, poetry, and nonfiction - as well as to the creative writing community at KU and in Lawrence. Students will read and write in all three genres, engage in workshops, and complete a full portfolio by the end of the semester. The course will end with a celebratory reading involving current students and alums from the past twenty years.

Who would most benefit from this seminar: Anyone who has an interest in reading or writing. The students do not need to be English majors but they should want to explore different forms of creative writing.
Exploring the Freshman Year
Instructor: Charles Neiss
Seminar Assistant: Chad Uhl

Seminar Description: Through analysis of narratives, ethnography, and research studies, students will compare data gathered on the first year of college to their own experiences. This seminar will expose students to the variety of outcomes institutions intend for freshmen to achieve, the many methods used to assess student growth during the first year, and the findings of key studies on the importance and impact of the freshman year.

Who would most benefit from this seminar: Students interested in the social sciences will benefit from this seminar as it focuses on educational, sociological, psychological, and anthropological topics and research methods.

Honors Digital Project Seminar
Instructor: Élika Ortega
Seminar Assistant: Marcela Cuestas

Seminar Description: In this hands-on seminar, students will work collaborative towards a single digital project published online. In doing so, we will do small research assignments online and offline and adopt best practices for both contexts. We will also digitize non-digital sources and reflect upon the change of medium. At the end of the term, students will be able to develop well-informed digital projects and engage with the online world as producers of information.

Who would most benefit from this seminar: Students in the humanities, arts, and social sciences who are interested in the possibilities offered by digital media and computational technologies to document, investigate, and think about books, history, and art.

The Process of Creativity: Art as Learning, Thinking, and Being
Instructor: Lesley Owens
Seminar Assistants: Casey Gamble, Paige Selman

Seminar Description: Creativity is often seen as an innate talent, but most creative professionals conceive of their work as a process, a type of play that pays them rich intellectual dividends. This seminar will introduce students to different frameworks for understanding creativity, to arts organizations in the Lawrence community, and to the design method. Be ready to practice and learn about your own creative process.

Who would most benefit from this seminar: Those interested in engaging with the creative process thoughtfully and playfully. This course is NOT limited to students intending to major in the arts, creative writing, design, or music--it is for anyone interested in practicing creative and divergent thinking to solve complex problems.

Global Medicine
Instructor: Kathryn Rhine
Seminar Assistant: Corbin Stephens
Seminar Description: The concept of global health refers to the ways transnational flows of people, ideas, technologies, and capital influence the emergence and spread of diseases across space and time. In this seminar, we will question how these transnational entanglements, social and economic inequalities, and (mis)understandings of “culture” shape the delivery of medical care and the experiences of suffering in diverse global contexts. Specifically, we will focus on topics that include: childhood epilepsy in the United States, HIV and AIDS in Haiti and Nigeria, and psychiatric disorders in Hong Kong and Sri Lanka, among others.

Who would most benefit from this seminar: This course would benefit students across a range of majors, including anthropology, global and international studies, and students in pre-health career tracks.

College life under scrutiny
Instructor: Marlesa Roney Thursday, 1:00-1:50PM (14 class sessions)
Seminar Assistant: Ishani Shah

Seminar Description: Most students enroll in college to achieve the important goals of improving their intellectual skills and abilities. What many students do not realize is that going to college also has a significant impact on one’s overall development as a young adult, from increased self-awareness and self-confidence to fresh perspectives of the broader world in which we live. This course will explore the theories and research that explain the impact of college attendance on students and focus on how this knowledge is created.

Who would most benefit from this seminar:

Culture and Combat: The Warrior's Character and its Place in History
Instructor: Bill Sampson Thursday, 7:00-8:15PM (10 class sessions)
Seminar Assistant: Jacob Doerr

Seminar Description: We will begin with the Greeks, exploring how war has not only threatened cultures over the ages but has also rescued them. Commanders had success in proportion to their mastery of weapons and their application of battlefield tactics. But the great commanders, the ones whose imprint we still feel today, imposed their genius and their will upon their adversaries. For their nations, and for a least a while, they were the difference between victory and vanished. From Alexander to Boudicca and Caesar, from Genghis Khan to Nelson, from Quanah Parker to Rommel to Eisenhower, it is these people, their wars, and why they made that difference that we will read about and discuss.

Who would most benefit from this seminar: Students who are interested in: leadership, great leaders, diverse cultures, original and contemporary source materials, improving their writing skills, vigorous seminar discussion, team-centered presentations, the elements of success in combat, the place of those elements in life.

Tap Dance: The Souls of your Feet
Instructor: John Staniunas Friday, 1:00-1:50PM (14 class sessions)
Seminar Assistant: Tessa Pei Ying Ng
Seminar Description: Learn how to tap dance and communicate with your feet. Learn about the rich history of the tap dance form. Become part of an ensemble of dancers.

Who would most benefit from this seminar: No previous experience is necessary. Everyone benefits from all majors. The scientists have enjoyed it the most because this gets you out of your head and into your body.

Health and Health Care: Human Right, Societal Obligation, or Market Commodity? Class # 24986
Instructor: Matthew Stein Wednesday, 4:00-5:15PM (10 class sessions)
Seminar Assistant: Christine Schultz

Seminar Description: This seminar is intended as a brief introduction into the origins and current status of health and health care—exploring the widely divergent views present in 2015. The course will emphasize scholarly assessment of the topics, written expression (journals and papers), verbal discussion among peers, and hopefully an enhanced understanding of the issues present today.

Who would most benefit from this seminar: Students who are interested in the health care professions (physician, nurse, pharmacy, etc), American studies, political science and/or economics all potentially may benefit from this class.

The Internet and Society: Its in All the Things! Class # 25045
Instructor: James Sterbenz Wednesday, 11:30AM-12:45PM (10 class sessions)
Seminar Assistants: Taylor Johnston, Eileen Vander Velden

Seminar Description: The Internet and Society: Its in All the Things! (History, Science, Architecture, Engineering, Social Dynamics, Governance, Economics, and Politics)
This seminar will serve as a broad interdisciplinary introduction to all aspects of the Internet and its role in society, and is intended for students of all majors. Topics examined will include: History of networks and the Internet and key people from antiquity to the Web, Lolcats, and the IoT (Internet of Things); Science and architecture of the Internet and introduction to its operation and protocols; Social networking and interaction paradigms of people and organisations; Governance and regulation of the Internet; Service provider economics and net neutrality politics (discrimination based on content provider); Privacy, censorship, and international issues.

Who would most benefit from this seminar: This seminar should be of interest for students interested in The Internet and its relationship with society. It is intended for all majors, and not intended only for computer scientists and engineers.

Global Perspectives on Museums Class # 24943
Instructor: Celka Straughn Friday, 10:00-10:50AM (14 class sessions)
Seminar Assistant: Julia Reynolds

Seminar Description: As institutions and instruments of modernity, museums in Europe and North America developed within a framework of the Enlightenment, nationalism, and colonialism, and have further been described as active tools of empire. In what ways have these foundational histories and ideologies impacted the formation of museums in other parts of the world? To what extent do they shape museum practices today? By examining museums through global perspectives, this seminar seeks to place museums within transnational histories and open a broader exploration of the collection,
display, and interpretation of museum objects. Throughout the semester we will discuss different types of museums from a variety of geographical regions in order to develop a broader understanding of museums and their historical, political, and disciplinary (e.g. art historical, historical, anthropological) contexts. We will further consider postcolonial, indigenous, transcultural, and multicultural critical approaches and strategies as they relate to museums today and in the future.

**Who would most benefit from this seminar:** Students contemplating any major are welcome to participate in this course. While the seminar introduces content and methods drawn from the humanities and social sciences, it overlaps with a number of potential areas of study, including: global and international studies; various regional area studies; art history; anthropology; history; sociology; philosophy; and environmental studies.

### Why Volunteering Matters!

**Class # 24982**

**Instructor:** Kala Stroup  
**Tuesday, 4:10-5:00PM (14 class sessions)**

**Seminar Assistants:** Matthew Ong, Vivek Patel

**Seminar Description:** Your generation has clocked volunteer hours in your communities as tutors, mentors, participants in fund-raising events (5K runs), Eagle Scouts, 4-H leaders, advocates for causes, environmental awareness advocates. While volunteering you have been part of the nonprofit/philanthropic sector with over 65 million volunteers a year, over 1.8 million organizations, and a GDP the size of Australia. This tutorial counts toward earning service-learning certification and will integrate volunteer experiences with research and information about nonprofit organizations.

**Who would most benefit from this seminar:** Civic engagement is an important component of healthy communities and college graduates have a particular obligation to be public service leaders.

### Memory and Power: A Brief History of How (and for whom) the Past Has Been Made to Serve the Present

**Class # 24983**

**Instructor:** Dave Tell  
**Tuesday, 2:30-3:45PM (10 class sessions)**

**Seminar Assistant:** Noah McKinney

**Seminar Description:** This seminar will focus on how those with power rewrite history to serve their own interests. We will study a variety of traumatic events: the American Revolution, slavery, civil rights, both world wars, the Holocaust, and 9/11. For each event, we will study the ways in which its memory has been transformed over time in accordance with the interests of the powerful.

**Who would most benefit from this seminar:** Students pursuing a degree in the humanities. Although those in the sciences would learn from an exposure to humanistic methods and knowledges.

### Perspectives on Laughter

**Class # 24935**

**Instructor:** Terese Thonus  
**Thursday, 2:00-2:50PM (14 class sessions)**

**Seminar Assistant:** Sandra Sanchez

**Seminar Description:** This seminar focuses on laughter as deployed in human conversation. We will study laughter critically through biological, linguistic, anthropological, and social lenses to understand that while it is often connected with humor, cross-culturally it serves a variety of different purposes. Class activities include book discussion and group poster presentations as final projects.

Who would most benefit from this seminar: Students who are interested in human conversation and interaction, whether from a biological, linguistic, anthropological, or social perspective, will benefit the most from this seminar.

Computational Mathematics and Climate Dynamics
Class # 24985
Instructor: Erik Van Vleck Wednesday, 10:00-10:50AM (14 class sessions)
Seminar Assistant: Abigail Schletzbaum

Seminar Description: The focus of this seminar is on advances in computational mathematics and their application to understanding climate dynamics. The seminar will provide an introduction to the computational mathematics package matlab, high performance computing, and tools for numerical detection of bifurcation phenomena in which there is a major change in the state of the system. We will also introduce simple models of ocean and atmospheric dynamics and then focus on how computational mathematics tools can assist in the understanding of these models. Students in this seminar will receive an introduction to web publishing software and will use this as a medium to produce their final projects.

Who would most benefit from this seminar: Students with interests in Mathematics, Atmospheric Science, Science, and Engineering.

How science REALLY works
Class # 25041
Instructor: Michael Vitevitch Tuesday, 9:00-9:50AM (14 class sessions)
Seminar Assistant: Rachel Phillips

Seminar Description: This seminar will examine (1) how scientific knowledge really changes over time (via evolutionary increments or revolutionary shifts), and (2) how science is really done on a smaller time-scale (i.e., how do scientists figure out what to do next?). We’ll use the fields of Cognitive Psychology, Psycholinguistics, and Network Science as our “subjects” of study, but the skills you acquire can be applied to any social or physical science. Another portion of the class will consider the importance of scientific outreach.

Who would most benefit from this seminar: Anyone from any scientific field, anyone interested in science, or anyone interested in scientific outreach.

Social Issues, Political Problems
Class # 24938
Instructor: Chris Wiles Wednesday, 8:00-8:50AM (14 class sessions)
Seminar Assistant: Cody Christensen

Seminar Description: This class will broadly survey a selection of social and political issues through the medium of important contemporary non-fiction works on politics, philosophy, and society. Students will be vigorously challenged to think and write critically, and to express and defend their viewpoints.

Who would most benefit from this seminar: Political science, pre-law, economics, sociology and philosophy students may all be interested in the content of the course. All students would benefit from the emphasis on critical thinking and writing throughout the course.
**Sharing Your Vision**

**Instructor:** Mike Williams  
**Thursday, 12:00-12:50PM (14 class sessions)**

**Seminar Assistant:** Chloe Adams

**Seminar Description:** To be a confident, active participant in the information age, you must understand the principles of visual communication. This is especially important as your work as a student and young researcher is shared with an audience that includes fellow students, professors and the public.

During the seminar, we will expand your visual vocabulary and build a personal strategy to guide your creation, selection and use of basic visual forms. We will also learn to apply this strategy to your work on projects in this course and other presentations your academic work may require.

**Who would most benefit from this seminar:** Students who will creating projects that will benefit from better visual presentation. The class does NOT require great artistic ability. We will explore the best use of a variety of presentation tools and improve your ability to select and use of the most appropriate tool for many academic settings.

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**Locomotive to Smartphone: Culture, Space, & Time in the Machine Age**  
**HNRS 177 Class # 25842**

**Instructor:** Nathan Wood  
**Mon/Wed, 12:30-1:45PM (3 credit hours)**

**Seminar Assistant:** Harrison Baker

**Seminar Description:** How does the introduction of new machines affect the way we understand ourselves, as well as our conceptions of space and time? Additionally, how can the historical study of this process of adaptation help us understand our current relationship with technology? This course will investigate humans’ relationship with technology over the past two centuries, paying particular attention to the ways that machines such as locomotives, artificial lighting, telephones, telegraphs, watches, bicycles, automobiles, and airplanes have been constrained by historical precedent while challenging and altering our attitudes toward spatiality and temporality. By studying these and other examples from the past, students will develop and practice research skills that will help them in future college courses. Satisfies KU Core 1.1. 3 CREDITS.

**Who would most benefit from this seminar:** This course uses a historical approach to explore issues of design, technology, and culture. Students interested in culture, gender, sustainability, engineering, and above all, history and technology will find this course useful and fun. The course meets KU Core Goal 1.1. 3 credits.