

Wabash.

2021 Scarlet Honors Weekend Class Session Offerings

Calling for The First Crusade

What did Pope Urban II say to the assembled crowds at Clermont, France, in 1095 that got the mass response “*Deus vult!*” (“God wills it!”) and launched the First Crusade? We have five different accounts of his speech. What do they let us learn about the event, the response, and the writers of the sources? We will examine the sources as a path into early Crusading history.

Can we detain a citizen suspected of terrorism indefinitely without charge or trial?

The military has captured an American citizen that it strongly suspects of terrorism. The President detained him without charge or trial so the government could gather vital evidence without having to disclose publicly the evidence or how it obtained the evidence. Now, nine months later, the citizen’s family has sued the President claiming the detention is unconstitutional and demanding the citizen either be released or tried for treason. Who wins? Join the debate and see how we learn constitutional law by doing constitutional law at Wabash.

Democracy and the Quest for Community

Alexis de Tocqueville left France to visit America when he was in his mid-20's. He wrote about what he found: Self-interested democratic people who had found new reasons to come together and care about their country as a result of America's many associations. In our politically divided contemporary world, his insights are more important than ever.

Democracy: from Athens to America

Our country is a democracy—a term we’ve adopted from ancient Greece, where democratic government supposedly began. In this session, we’ll travel back in time to explore what democracy looked like during the so-called Golden Age of Athens, ca. 450 BCE. We’ll investigate key texts alongside the material remains of Athenian democratic government, from ballot boxes—some clearly rigged—to allotment machines and the scraps of pottery used to write down names of citizens to be ostracized. “Who counted as a citizen?” “What were the rights and duties of a citizen?” and “How did democracy function on a daily basis?” are some of the questions we will consider. Finally, we will compare democratic government in Athens to democracy as it operates today in the United States. at Wabash.

Electrons and Magnetic Fields

You will perform one of the most famous experiments in physics by creating a beam of electrons that will then be deflected by a magnetic field which you will control. By measuring the trajectories of these electrons, you will then be able determine one their key properties, the electron charge-to-mass ratio. J. J. Thomson used this experiment to demonstrate the existence of the electron and win the Nobel Prize.

Exploring Tsiolkovsky's Rocket Equation with *Kerbal Space Program*

Kerbal Space Program, released in 2015, simulates rocketry and spaceflight in a fictional small-scale solar system. Players can build and fly their own rocket designs built using a number of available parts. The game has extensive modding support, and players have made a wide range of them, varying from autopilot scripts to parts packs to life support systems. In this session, we'll look at how we can analyze rocket flight using Tsiolkovsky's equation. We'll probably also blow some stuff up.

Fake Data and Real Science - Benford's Law in Action

How can random patterns in numbers help us tell the difference between real and falsified data? In this class session we'll take a look at a surprisingly simple way to use data science and probability to detect bad science, cooked books, and election fraud.

Food and Diversity in Latin American History

Through examination of the history of food production and consumption, we learn about the cultural fusions that make up the region of Latin America.

Form, Function, and Diversity in Skulls

From fish to birds to humans, all vertebrate animals share the same basic components in their skulls. But every species' skull is different in important anatomical details. These anatomical characteristics give us clues about the relationships between species and the lifestyles to which they are adapted. In this class, we will become familiar with some key terminology in skull anatomy and explore anatomical diversity while working hands-on with skulls from a variety of animals.

Global Citizenry and Global Public Health

Global health is the health of populations in the global context, or “the area of study, research and practice that places a priority on improving health and achieving equity in health for all people worldwide.” If we have learned anything from the COVID-19 pandemic it is that addressing global health challenges requires that we act as global citizens with a sense of global awareness, social responsibility, and civic engagement. In this session we will examine and discuss the global burden of disease, social determinants of health, and the benefit of viewing various risk factors through the lenses of the life sciences, social sciences, humanities, and the arts.

How to Read a Page on Comics

Dismissed once as kids' fare or shrugged off as sub-literate, comics today are enjoying a Renaissance. In 2015, comics and graphic novel sales topped \$1 billion, a 20-year high; books like Art Spiegelman's *Maus* or Alison Bechdel's *Fun Home* commonly appear in college courses. In this mini-class, you'll learn how to close read this deceptively simple medium, developing special, analytical abilities.

Memory and the Brain

Our ability to make and use memories is key to our ability to function in our everyday life, but also a critical part of our identity. But, how do we actually make new memories? What happens in diseases, such as Alzheimer's, to impair our memory? This class will examine the psychology of memory, and introduce what we know about the mechanisms in the brain that are critical for making new information "stick".

Nanotechnology and Color

Nanotechnology remains popular in science fiction books and films! However, in real life, the manipulation of matter on the nanometer scale has become a huge area of modern research. Much of the driving force for building tiny devices and features on the nanoscale is their importance for existing and emerging technologies such as nanoelectronics, microscopic robots, sensors, molecular computing, medical implants that can communicate directly with cells, and a myriad of other applications. This interactive activity will allow you to synthesize gold nanoparticles in a Wabash laboratory and explore their behavior, specifically the amazing property that color is a function of size on the nanoscale!

Pay for Play? Exploring Amateurism and the NCAA

Should NCAA Division I student-athletes be compensated as professionals? Do they have a right to financial gain from use of their name, image, and likeness? Borrowing from the *Sports and the Law* freshmen tutorial, students will discuss the current model of intercollegiate athletics amateurism and potential future methods of compensating NCAA Division I student-athletes.

Pompeii: A Roman City Frozen in Time

The eruption of Mt. Vesuvius famously dumped a mountain of volcanic material on the city of Pompeii, encapsulating its residents, houses, temples, baths, bars, and brothels in meters of ash. This situation has led historians and Discovery Channel-style experts to hold up Pompeii as a perfect archaeological circumstance, a city supposedly "frozen in time." But is such an assessment really true? To what degree? In this session, we will interrogate that notion by engaging volcanology, archaeology, and the ways that the past can be shaped to serve the present. Along the way, we'll learn more about this city, its inhabitants, and their final hours.

Protein Folding

Proteins are important components of cells, and to do their jobs, they need to have the right shape. There are a number of diseases that are associated with incorrect folding, such as Alzheimer's disease, Parkinson's disease, and many others. But what forces affect protein folding? In this activity, we will use a model system to look at the intermolecular forces that stabilize protein folding and to learn about how biochemists study protein folding.

Should Placebo Opioids be Considered Doping in Sports Competitions?

The placebo effect is often considered to be an annoying effect that medications must overcome to show their efficacy. Looking at placebo effects from another angle, they show the amazing power of the brain to heal, merely from believing that we are receiving a treatment. For this class, I plan a brief lecture introducing the placebo effect, followed by a discussion of the ethics of using placebo-mediated pain relief during sports competitions (using information from the experimental study by Benedetti, Pollo and Colloca, 2007).

The "I" in "Interactive": Free Will and Agency in Videogames

Videogames differ from other media in part because they are interactive. Unlike viewers of films, players of videogames have control over the on-screen action. The sense of freedom and control that videogames offer makes them very well suited to help us think about what freedom is, and how free we really are to exercise control over our actions. In this session, we will play and think about videogames from a philosophically engaged perspective in order to see what they can teach us about the classic philosophical problem of free will.

The 2021 Redistricting Wars

Every ten years, the United States counts its population by conducting a census and redraws its political maps based on the results. Since the start of US history, this “redistricting” process has been very controversial, as those with the power to decide where map lines are drawn have often used it to benefit their political parties, dilute or promote the voting power of racial and ethnic minority groups, protect incumbents from competition in upcoming elections, and otherwise advance their political interests. This class session will explore how different states have carried out redistricting this past year in light of the 2020 Census results, some of the controversies that have come up along the way, and a ideas for reforming the redistricting process in the future.

The Economics of Inequality

In this class we will examine economic inequality, that is differences in income and wealth across different people. The class will at least begin to address some very large questions: How is inequality measured? Has inequality increased in recent years? What causes inequality? What role have events such as wars, plagues, and economic booms and depressions played in increasing or decreasing inequality? Is inequality always bad? What effect does economic inequality have on politics?

The Hidden Benefits of Playing with Dad

Each day, the stereotype of a father roughhousing with his children plays out on living room floors throughout the world. But what are the benefits to children from winning or losing wrestling matches with their dads? We will talk about why fathers are more likely to engage in roughhousing than mothers, why it doesn't matter which parent plays with children (or even whether it is a parent at all), and the ways in which children benefit from challenging play.

The Law and Economics of Big Data

Oftentimes a person might just wonder, “Which Harry Potter character am I?” Facebook definitely has an answer for you via answering eight simple questions (Spoiler: You're Ron). On the surface, this seemingly free tool helps answer many of life's most pertinent questions, but what is the true price we pay for those answers? By granting this app access to your profile, you give them permission to harvest, then sell your personal data to the highest bidder. Naturally, this begs the question: who owns that data once it is collected? Do you own your data? Does the company that collected that data own it? Can data even be privately owned? Perhaps economics can provide an answer.

The Music of the Blues

This is an interactive class session that will introduce the musical genre of the blues, detail its characteristics, and end with students composing their own blues lyrics (and possibly some music). We will get to listen to, and possibly perform, some great music!

Theatre Prop Making: Kit Bashing

Students will create a custom prop from parts and pieces from toys, model kits, and leftover “junk.” Using the same techniques as the prop makers on Star Wars, Star Trek, Batman and many other movies and tv shows.