Sec 001-Introduction to Materials Research through Scanning Electron Microscopy
Dr. Carl Boehlert & Dr. Per Askeland  
Tu 3-3:50pm  
102 Farrall Ag Eng Hall
This Research Seminar will allow students to learn about one of the most widely used tools in multidisciplinary materials-based research, a scanning electron microscope (SEM). Students will focus on SEM analysis of ceramics, composites, biomaterials, metallic alloys, etc. The students will also be responsible for performing a materials-based research project using the SEM and presenting their research through a poster display at the University Undergraduate Research and Arts Forum (UURAF) in April 2021.

Sec 002-Experimental Mathematics
Dr. Robert Bell & Dr. Richard Edwards  
W 3-4:20pm  
W5 Holmes Hall
Students will use computer algebra software to explore topics in current and historical mathematical research. Students will work in small teams and learn to collaborate and communicate effectively. Students will have the opportunity to explore problems beyond what is typically encountered in undergraduate mathematics course work and, thereby, gain a better understanding of what constitutes research in the mathematical sciences. By the end of the First semester, students will have a basic understanding of the SageMath computer algebra system and the Python programming language. Previous programming experiences not required. However, it is expected that students will have completed one semester of calculus at the level of MTH 132 or LB 118.

Sec 003-Emerging Social Identities: Neurodiversity as a lens on inclusion and diversity in society
Dr. Laura Dilley  
F 2-2:50pm
This unique seminar will trace the origins of an emergent social movement known as the Neurodiversity movement, which is currently gaining increased recognition in the UK, Australia, and the US. The Neurodiversity movement has grown out of a movement for autism self-advocacy which began about 20 years ago. Neurodiversity refers to a concept in which neurological differences are to be recognized and respected as any other human variation and covers not only autism, but also conditions like ADHD, dyslexia, and Tourettes syndrome, to name a few. To understand the historical context and concerns of this emergent social movement, students will draw on interdisciplinary research in a variety of scholarly areas, including social psychology and cognitive neuroscience, language science and linguistics, education, disability studies, queer studies, and women’s studies. This seminar will offer a window into societal factors affecting opportunity, equity, and inclusion in workplaces and public institutions. The seminar will culminate in presentation of an original research or creative project at the Spring, 2021 University Undergraduate Research and Arts Forum. Through the seminar, students will have the opportunity to engage in mentored research emphasizing effective science communication and professional skill development.

Sec 004-Into the Field: Studying Language, Culture, and Identity across Local and Global Contexts
Dr. Steven Fraiberg  
Th 3-4:20pm  
317 Bessey Hall
This course will investigate cultural and linguistic landscapes in communities across the world. To accomplish these aims, we will draw on a research tradition referred to as ethnography. Ethnographers are people who go into the field in order to study linguistic and cultural activities in the context of people’s everyday lives. Drawing on this rich body of research, we will examine a range of cultures, rituals, practices, and people: refugees, immigrants, gangs, graffiti, social media sites, Native Americans, middle school girls, the homeless on the sidewalks of New York, and an array of communities and contexts located around North America and the world. Drawing on cases
and examples from this scholarship, we will conduct our own ethnographic research on specific sites across the university and local communities grounded in your own interests and areas of focus: video gaming, theater troupes, hip-hop, food banks, tattoos and piercings, martial arts, fine arts, anime, manga, sports teams, debate teams, startup innovation hubs, environmental movements, and more. Based on field work in these areas, we will write-up ethnographic accounts documenting local language and cultural practices, and present our findings at the University Undergraduate Research and Arts Forum (UURAF).

**Sec 005-Stock Portfolio Risk Diversification: Does Gender Matter?**
Dr. Kirt Butler & Dr. Antoinette Tessmer  
F 9:10-10 AM  
N022 Business College Complex  

This seminar investigates the effect of gender diversity on Wall Street. Has gender diversity (or the lack of) significantly shaped Wall Street? Could gender diversity make a difference on Wall Street? Is the concept of stock value gender dependent? Is the perception of investment risk gender specific? If you are intrigued by those questions, we invite you to join the conversation! The seminar gives the opportunity to test yourself with a $1M portfolio to be invested on the stock market. We will discuss risk/return definitions and measurements when related to stock, bonds, futures, cryptocurrencies, and other classes of assets. We will also observe the effect of gender on participant's portfolio performances.

**Sec 006- The Psychology of Time and Rhythm**
Dr. J. Devin McAuley  
F 12:40 PM - 2:00 PM  

This seminar will explore the scientific literature on the human experience of time and rhythm—a fascinating interdisciplinary topic that is central to the understanding of brain and mind. Students in the seminar will read and discuss scientific articles on the topic of time and rhythm, and will work in small teams of 2-3 individuals on the design and execution of behavioral experiments that investigate the neural and cognitive bases of music and language relationships. The results of the student projects will be presented at the 2021 University Undergraduate Research and Arts Forum.

**Sec 007-Molecular Phylogenetics & Evolution**
Dr. Patrick Edger  
W 4:30 PM - 5:50 PM  

Our understanding of evolution has been revolutionized by the ability to study the processes of genetic change at the molecular level. This seminar course will cover the mathematical, computational and molecular techniques required to explore the evolutionary diversity of the planet's molecular (DNA) sequences and estimate the evolutionary relationships among species. This course will introduce students to tree thinking—how to correctly interpret phylogenetic trees. Phylogenetic trees serve as a powerful framework to estimate the timing of divergence events, analyze geographic distribution of species, and investigate the origin of evolutionary novelties. In addition, this course will provide students the opportunity to gain valuable hands-on experience with generating and analyzing their own data. Students will also be provided an opportunity to publish their research (as part of a larger class project) in a peer reviewed journal, and present their research at the University Undergraduate Research and Arts Forum.
Sec 008-From Atomic Nuclei to Stars: Research at the National Superconducting Cyclotron Laboratory/Facility for Rare Isotope Beams
Dr. Dean Lee & Other Faculty Affiliates Th 5-5:50 PM
For more than 50 years, scientists from MSU and all over the world have been conducting nuclear physics research at the National Superconducting Cyclotron Laboratory, producing and studying exotic nuclei, discovering new phenomena and creating new theoretical models to explain and predict nuclear characteristics. These exotic nuclei are important for nuclear astrophysics and the formation of elements. And with the nearing completion of the Facility for Rare Isotope Beams, the most powerful heavy-ion accelerator in the world, there are even more opportunities to study nuclear science and accelerator science. In this Honors Research Seminar, students will learn about some of the exciting research projects that NSCL/FRIB faculty are working on, and they will join a research group to get hands-on experience in areas at the forefront of nuclear and accelerator science.

Sec 009-Framing Social Movements
Dr. Rachel Mourao Tu 10:20 AM - 11:40 AM
From the controversial death of Trayvon Martin in 2013 to the live-streamed shooting of Philando Castile in 2016, journalists struggle to cover nationwide protests about race, police brutality and loss of life. At the same time, the press is often attacked for giving disproportional and legitimizing attention to white supremacist movements, despite those groups perceiving news as biased against their demands. This honors seminar will focus on the relationship between press and protestors. The class will provide students a strong foundation on quantitative content analyses while working on a research project on media representations of various current movements. We will undertake the question of under which conditions negative coverage of protests appears, and under which conditions movements are legitimized in the news media. In addition to presenting their research at the University Undergraduate Research and Arts Forum, we will produce an accessible research report to inform the creation of a guideline for journalism classes outlining better strategies to report protests in an informative, accurate and meaningful way.

Sec 010-Sundays at Detroit: Leisure, Free time and Entertainment in Historical Perspective
Dr. Juan Javier Pescador W 10:20-11:40 AM
This Honors Research Seminar will focus on the unique leisure and entertainment experiences of historically underrepresented groups (African Americans, Latinxs and Arab Americans) and their contributions to the history of Detroit, Michigan. Focusing on the history of leisure, free time and entertainment the city of Detroit in the 20th century for African Americans, Latinxs and Arab Americans, this course analyzes the genesis and transformations in entertainment, leisure and recreational activities in these communities as they strived to create permanent communities in Detroit. Struggling against a landscape marked by segregation, inequalities and discrimination in the industrial era, these communities articulated their free time to create their own spaces for recreation, agency and culture. The class is designed to introduce students to the methodology, practices, standards and modus operandi in critical historical thinking, from the identification of primary sources to the carrying of historical research and ultimate dissemination of historical knowledge. Students will be able to identify an original research topic, conduct a historical investigation based on primary and secondary source, contextualize the merits of current scholarship on similar subjects, articulate and thesis and interpretation of the facts and reach a set of conclusions on the specific subject. In close collaboration with Leadr Laboratory on Digital Humanities, students will learn how to create digital projects to disseminate historical research according to the standards of social
Sec 012-Companion Animal Welfare: breed, behavior and animal sheltering
Dr. Jacquelyn Jacobs & Dr. Laura Reese  Th 10:20 AM - 12:10 PM
This Honors Seminar will focus on topics related to animal welfare, behavior, and animal sheltering. While Michigan has recently been declared a No Kill state, meaning that on average licensed shelters and rescues find homes for 90% of adoptable animals in their care, such a designation is not necessarily what it seems. First, the 90% live release is based on an average which means that many shelters fall below that figure. Second, the definition of adoptable may vary from shelter to shelter based on how the animal’s health and behavior are assessed in each case. Finally, there are many states far below the No Kill standard, thus identifying practices to boost live release from shelters across the country is still critically important. Students in this seminar will have the option of participating in one of two research projects designed to provide information to the animal sheltering profession on how best to increase live release rates. One project will focus on dog breeds, behavior testing practices in shelters, and the potential connection (or lack thereof) between breed mix and behavior. The second project will assess best practices in animal shelters related specifically to programs that try to get the best match between personality of the dog and the potential adopter and cooperative transfer programs that facilitate the movement of animals from overcapacity shelters to those with more space and potential adopters. The research will include direct observation of dog behavior testing, quantitative analysis of survey data, qualitative interviews with animal shelter staff, and field visits to animal shelters in the Lansing area and in Detroit. The course will be presented from the perspectives of both animal science and public policy and will directly impact practice in animal sheltering.

Sec 013-History and Testimony in the Digital Age: Studying the Holocaust
Dr. Steven Weiland & Faculty Colleagues in Jewish Studies  Th 2-3:20 PM
This Honors College Seminar will offer participants an opportunity for work in a unique digital resource for studying the Holocaust. They will have access to the extraordinary USC Shoah Visual History Archive via the MSU Library. Working individually and in small groups with MSU faculty from several departments, and meeting in the seminar format, students will explore these questions: 1) What can be learned about the Holocaust and anti-Semitism from the perspective of those who survived to tell their stories? 2) What are the best methods for learning from testimony as a form of historical evidence? And 3) How can the evidence of testimony best be incorporated into Holocaust research and presented, including the uses of digital resources? The focus will be on capitalizing on digital resources in doing research in a domain of inquiry with profound historical and personal meanings. And students can learn about the uses of digital multi-media presentations in their academic work beyond the Seminar itself.

Sec 014-Examining Coupled Human and Natural Systems to Address Complex Environmental Issues
Dr. Steven Safferman, Dr. Georgia Peterson & Steve Marquie W 3-4:20 PM
Students will learn to recognize, model and analyze coupled human and natural systems (CHANS) in various scales and contexts. Understanding the mechanisms behind systems and working across disciplinary specialties are more effective ways to address current, complex environmental issues. Students will apply CHANS concepts to a surface water quality project in the Red Cedar watershed and produce a project report.
Sec 015- Field Research: Wind eroded landscapes in Western Wisconsin
Dr. Randy Schaetzl, Dept. of Geography, Environment, and Spatial Sciences  M W 9:10 AM – 10AM
In this seminar the class will travel to western Wisconsin for a long weekend of fieldwork, measuring the effects of wind erosion on rocks and soils. This area was very windy during the last glacial period, 18,000 years ago, with sand blowing everywhere. By taking measurements on sandblasted rocks that stick up, out of the soil, we will not only document this event, but determine the direction that the winds came from. Students will learn basic geology as well as mapping skills. There's nothing like a stint of fieldwork - you will never forget it. Then, together, we will analyze the data and write a paper - for publication in a professional journal. Students will need to clear out a five-day window (Th-Mon) in early-mid September for the fieldwork.

Sec 750-Topic: Immigration and Cultural Diversity in Israel (9/29/20-3/2/21)
Dr. Yore Kedem  Tu 5-6:50 PM  Eustace Cole 207/208
This Honors Research Seminar Abroad will introduce first and second year students to research through the lens of immigration and cultural diversity in Israel. Students will attend weekly research seminars on campus during fall (Sept. 29 - Dec. 1), participate in an 18 day field research experience in Israel during winter break (Dec. 20 - Jan. 6), and attend weekly research seminars on campus during the spring (Jan. 12 - March 2). Students will present the results of their research projects at the University Undergraduate Research and Arts Forum (UURAF). Students will be enrolled in the fall (Tuesdays from 5:00-6:50 PM) for two courses totaling 7 credits (UGS 200H Section 750 and JS 390). To be pre-enrolled, complete an application and email to Dr. Kristin Janka, kristin@msu.edu. Link to the application: https://honorscollege.msu.edu/programs/Israel-Application-Form.pdf
More information: https://honorscollege.msu.edu/programs/Israel-honors-research-seminar.html