



Project List

Below is the list of available research projects for summer 2021. Click on a project to jump down and see more details about it. Pay attention to each project's timeframe, weekly meeting times, and any preferred/required prior coursework or experience.

4- Week Available Projects

[A Museum for Abingdon](#) - History

[Electoral Forensics](#) - Statistics & Political Science

[Cynisca of Sparta: Women's Self-Representation in 4-Century BCE Greece](#) - Classics

[Designing and Implementing Herbal Plant Guilds in the Knox Forest Garden](#) - Sustainability & ANSO

[Environmental Microplastic Sampling in Freshwater Systems of Knox County](#) - Environmental Studies

[Underrepresented in Medicine: Working Towards Access & Success for Pre-Med Students](#) - Pre-Med

8- Week Available Projects

[Power and Politics of Determining Facts: An Ethnographic Collaboratory on Fact Checking and News Literacy](#) - ANSO

[The Fourth of July - Celebrations, Identity, and Politics](#) - Political Science & International Relations

[Bilingual Literacy & Community Outreach: Chinese Children's Stories for Local Schools](#) - Asian Studies

[The Visualization of Sound and Sonification of Light](#) - Physics

[Solutions from Nature: Environmental Approaches to Cultivation Challenges](#) - Biochemistry, Sustainability

[Working with Social Data: Advancing Diversity, Equity, and Inclusion](#) - Economics & ANSO

[Privacy in the Modern World](#) - Computer Science

Note: Each student group must enroll at least 3 students in order to run.

4-Week Projects

[A Museum for Abingdon](#) | Cate Denial, History

Students will spend four weeks helping prepare a museum space in Abingdon for use by the community. This will include organizing and cataloging collections, writing sample copy, undertaking oral history interviews with local residents, transcribing said interviews, attending stakeholder meetings, and designing potential floor plans for the finished museum.

Meeting Details

July 5-July 30 | 11 hours per week required | Weekly meetings with Prof. Denial on Wednesday from 1:30-3:30pm, plus visits to Abingdon for at least 6 hours per week | Format is hybrid (virtual and in-person)

Pre-Reqs | Pay

6 student spots available | No-prerequisites or prior research experience needed
Each student will be paid a \$500 stipend | Each student may request up to \$500 for housing

Electoral Forensics: Investigating Elections for Unfairness | Ole Forsberg, Statistics

This research group will bring together political science and statistics students (ideally 2 of each) to investigate elections, writ large. While all members will be responsible for understanding the elections (laws, parties, history, etc.) and all members will be responsible for performing a statistical analysis (regression, differential invalidation, etc.), the students will be most responsible for the aspects closest to their majors/interests. Students applying to this group should have an interest in elections and the democratic process.

Meeting Details

July 5-July 30 | 11 hours per week required | Two weekly meetings with Prof. Forsberg on Tues/Thurs from 1:00pm, although that can be flexible | Format will be flexible, suiting the needs of the group

Pre-Reqs | Pay

4 student spots available | Two students are desired who have taken some STAT courses and two students who have taken a comparative politics or an international relations courses, at either the high school or college level. If you do not have these classes, but you're interested, please still apply! No prior research experience is needed.
Each student will be paid a \$500 stipend | Each student may request up to \$500 for housing

Cynisca of Sparta: Women's Self-Representation in Fourth-Century BCE Greece**Mitchell Parks, Classics**

The goal of the project is to investigate the historical figure Cynisca of Sparta, a member of the Spartan royal family who engaged in activities that were atypical for a woman in her time period, namely sponsoring a chariot in the Olympic games and dedicating a monument, with a verse inscription on it, to celebrate her victory. The research team will attempt to determine what (if anything) can be known about her motives by situating her monument within current scholarly thought about gender, poetry, athletics, etc., in Cynisca's era.

Meeting Details

August 2-August 27 | 11 hours per week required | MWF meetings with Prof. Parks at 11am-12p, or at a time that works for all, plus additional 1:1 or small-group meetings throughout week | Format is mostly virtual

Pre-Reqs | Pay

No prior research experience is needed. Ideally, all students will have completed GRK 103 but students without Greek knowledge are welcome to apply if they have taken CLAS/HIS 110 or CLAS/HIS 202
Each student will be paid a \$500 stipend | Each student may request up to \$500 for housing

Designing and Implementing Herbal Plant Guilds in the Knox Forest Garden**Tina Hope, Sustainability | William Hope, Anthropology/Sociology**

Plant guilds are observed in the natural landscape and can serve as an example in designing perennial food systems. A plant guild is a beneficial grouping of perennial plants and living organisms that coexist, supporting one another in their many functions. Perennial plant guilds are considered central to

developing a diverse, integrated, and functional forest garden. In this small-scale, applied research project, students will observe and identify a range of plants that live within the Knox College campus ecosystem, with particular interest given to those plants that are able to thrive in disturbed sites and have beneficial qualities in terms of providing habitat, nectary & pollination sources, and multiple human uses.

Meeting Details

June 7-July 2 | 11 hours per week required | Tues/Thurs from 10am-1:00p | Format is mostly in-person

Pre-Reqs | Pay

6 student spots available | No-prerequisites or prior research experience needed

Each student will be paid a \$500 stipend | Each student may request up to \$500 for housing

Environmental Microplastic Sampling in Freshwater Systems of Knox County

Katie Adelsberger, Environmental Studies

Microplastic pollution is an increasing concern, particularly given the ability of microplastics to move through hydrologic systems and interact with lake and riverine ecosystems. Sampling methods for microplastics are just becoming standardized for microplastic identification in water and sediment. Student participants will learn about microplastic pollution while testing a series of lab filtration and field sampling methodologies in order to develop a standard protocol for future research in Knox County. Students will end the experience by completing their own small-scale project and reporting on their results.

Meeting Details

July 6-July 30 | 11 hours per week required | MWF from 9:00am-12:00pm | Format is mostly in-person

Pre-Reqs | Pay

6 student spots available | No-prerequisites or prior research experience needed, although background in environmental geology, atmosphere and weather, or hydrology courses would be helpful.

Each student will be paid a \$500 stipend | Each student may request up to \$500 for housing

Underrepresented in Medicine: Working towards Access and Success for All Pre-Med Students

Judy Thorn, Biology | Lisa Harris, Health Professions Advising

Across the nation, specific populations are underrepresented in medicine: low-income, first generation, and people of color. At the same time, there's a physician shortage in the U.S., even as the demand for healthcare is growing at an unprecedented rate. Participating students will examine the factors that contribute to this situation, using peer-reviewed literature and data to formulate hypotheses and eventually, potential solutions. Students will gain experience understanding academic literature, analyzing statistical data, and grappling with the challenges and opportunities related to addressing these issues, starting right here on the Knox College campus.

Meeting Details

In June and July, students will begin building knowledge with 2-3 hours of virtual work per week. The main project will be run August 2-August 30, 11 hours per week, with meeting times roughly MWF from 9:00am-12:00pm | Format in August is mostly in-person

Pre-Reqs | Pay

6 student spots available | There are no course prerequisites. However, students must identify with one of the populations that are underrepresented in medicine (low-income, first-generation, or BIPOC). Each student will be paid a \$500 stipend for the August project, plus \$250 for the June/July work. Each student may request up to \$500 for housing.

8-Week Projects

Power & Politics of Determining Facts: An Ethnographic Collaboratory on Fact Checking and News Literacy

Jonah Rubin | Anthropology/Sociology

Students are invited to participate in a collaborative project on the politics of fact checking and news literacy education. Through a grounded, digital ethnographic analysis of diverse news literacy and media education initiatives, students will develop analyses of an emerging politics of fact-checking, asking: What kinds of politics are enacted through varied efforts to combat “fake news”? How does the news literacy industry reconcile their commitment to a singular corpus of facts with the diverse experiences, judgments, and truths that define the human experience? Who is included and excluded through these varied definitions of and strategies for attaining facticity? And ultimately, how can we build a practice of news literacy that is simultaneously resistant to conspiracy theories, inoculated against bad faith arguments, and inclusive of those voices that have traditionally been excluded from the public sphere?

Meeting Details

July 5-August 27 | 11 hours per week required | Tues/Thurs afternoon meetings with Prof. Rubin | Format is mostly virtual

Pre-Reqs | Pay

6 student spots available | No-prerequisites or prior research experience needed
Each student will be paid a \$1,000 stipend | Each student may request up to \$1,000 for housing

The Fourth of July - Celebrations, Identity, and Politics | Katie Stewart, Political Science and International Relations

National holidays are one tool states and societies use to engage in nation building. The collective act of celebrating a holiday on a particular day can serve to further bond people together and to their state through simultaneous remembrance, parades, concerts, rituals, and other forms of celebration. However, holidays vary in their ability to achieve this bonding function. The Fourth of July resonates with and is celebrated by many Americans, but by no means all. This project will examine different ways that people mark the Fourth of July holiday, varying opinions of its meaning and significance, and these views' connections to political identity and action. Student researchers will construct and implement interviews and surveys to collect this data from their communities. Students will then analyze the data to determine to what extent the Fourth of July works (or doesn't work) as a unifying national holiday.

Meeting Details

June 7-July 30 | 11 hours per week required | Mon and Fri 9:00-11:00am (tentative) meetings with Prof. Stewart, other group work will be asynchronous and flexible | Format is flexible and dependant upon student needs

Pre-Reqs | Pay

6 student spots available | One of these classes would be helpful but are not required: either PS 230 Research Methods or PS 220 Survey of Comparative Politics
Each student will be paid a \$1,000 stipend | Each student may request up to \$1,000 for housing

Bilingual Literacy & Community Outreach: Chinese Children's Stories for Local Schools

Weihong Du, Asian Studies

This project focuses mainly on giving Chinese language students the opportunity to enhance their language skills through authentic translation tasks. The project will be interdisciplinary and serve a community service purpose; translations will be of children's stories authored by our team and the final product will be bilingual texts distributed to area schools in need of bilingual books for young readers. Team members should be able to commit to a schedule, be willing to collaborate, and be comfortable working in an environment with constructive criticism.

Meeting Details

July 5-August 27 | 11 hours per week required | Mon and Thurs 2-5pm meetings with Prof. Du | Format is mostly virtual

Pre-Reqs | Pay

6 student spots available | This group must have at least a few Chinese language learners. Ideally, it will consist of 4 students that are currently enrolled in (or have taken) Chinese language courses at Knox and 2 students with some graphic design expertise. Other interested students may apply.
Each student will be paid a \$1,000 stipend | Each student may request up to \$1,000 for housing

The Visualization of Sound and Sonification of Light

Nathalie Haurberg, Physics & Astronomy | Philip Griffin, Lab Coordinator

This project is a blend of physics research and a creative project, which has intersecting interests in physics, music, art, computer science, chemistry, and math. In this project, students will study both the mechanisms by which sound can be visualized, through constructing analog tools that harness the energy in the sound wave and using modern electronic tools that digitize sound. Students will also learn about how we can sonify light signals, as both light and sound share wave properties. Students interested in music could compose pieces for the very non-traditional "visual instruments." It is our intent to have the end of the project culminate in some type of performance utilizing the audio/visual tools that are constructed.

Meeting Details

June 7-July 30 | 11 hours per week required | MWF afternoons (approx. 2-3 hours) | Format is mostly in-person

Pre-Reqs | Pay

6 student spots available | In general, students need only have a background of understanding waves (high school-level physics) and a general interest in learning more
Each student will be paid a \$1,000 stipend | Each student may request up to \$1,000 for housing

Solutions from Nature: Environmental Approaches to Cultivation Challenges

Janet Kirkley, Biochemistry | Tina Hope, Sustainability | Miava Reem, Technical Asst Biology

Students will identify and investigate environmentally-based approaches to challenges, such as pest control, pollinator access, and drought management, found in the cultivation of socially and economically important plant species. Students will learn about and discuss climate and potential effects on agriculture, and select and plant seeds of the plant(s) they wish to study. The experimental design is set up for three physical locations for growing plants – the Ellen Browning Scripps Greenhouse and indoor and outdoor locations on the Knox Farm.

Meeting Details

June 7-July 30 | 11 hours per week required | Tues & Thurs 1:00-4:00pm | Format is mostly in-person

Pre-Reqs | Pay

6 student spots available | No-prerequisites or prior research experience needed

Each student will be paid a \$1,000 stipend | Each student may request up to \$1,000 for housing

Working with Social Data: Advancing Diversity, Equity, and Inclusion

Moheeb Zidan, Economics | Ashon Bradford, Anthropology/Sociology

The project is intended for students who are interested in inequality (stratification) and data analysis. Students will gain the opportunity to be involved in the exploration of data and theories that investigate social disparities. The goal of our project is to provide exposure to social science research for students who are under-represented in academia or policy making.

Meeting Details

July 5-August 27 | 11 hours per week required | Tues & Thurs (2 hours); one additional day to meet in smaller groups | Format is mostly virtual with a few in-person components

Pre-Reqs | Pay

6 student spots available | No-prerequisites or prior research experience needed, but having at least 1-2 students with prior knowledge of statistics (STAT 200) would be beneficial

Each student will be paid a \$1,000 stipend | Each student may request up to \$1,000 for housing

Privacy in the Modern World

David Bunde, Computer Science

What is the meaning and importance of privacy in modern life? On one hand, most people seem relatively unconcerned, with warnings by privacy advocates generally failing to change consumer behavior about the use of digital technology. On the other hand, loss of privacy has been explicitly used as a weapon in online harassment campaigns. In this project, you will learn about the privacy impact of new technology and society's evolving expectations about privacy. Learn about the relevant technologies and the opinions of those who have studied this from various perspectives before designing a survey to learn more.

Meeting Details

June 7-July 30 | 11 hours per week required | Meeting times will be flexible to accommodate everyone's schedule | Format will be whatever is needed by students, but preference is in-person

Pre-Reqs | Pay

6 student spots available | No-prerequisites or prior research experience needed

Each student will be paid a \$1,000 stipend | Each student may request up to \$1,000 for housing