Pre-College
2021 Program Guide

Our 2021 online programs were made up of talented Summer Carls who presented their final projects after 3 weeks of learning from Carleton faculty. We proudly hosted 195 students participating in 5 programs across liberal arts disciplines.

Please explore this document to learn more about each program. Our 2022 offerings will be announced soon!

Have questions or need assistance? Contact our office at summer@carleton.edu.
Exploring Global Pandemics
Personal, Social, & Political Perspectives

This program focused on how scholars in Psychology, Sociology, Political Science and Religious Studies make sense of individual, group, and nation-state responses to global pandemics including Covid-19. Students conducted research in 1 of 4 topics while experiencing class in other topics across the program throughout the 3 weeks.

**Research Topics**

**“We’re all in this together!”**
Rhetorical Responses to the COVID-19 Pandemic
What do these messages reveal about ourselves and society?
This course introduces students to the formal discipline of sociology through the deconstruction of COVID-19 rhetoric.

Director: Annette Nierobisz
Teaching Assistant: Rhesel Rivera

**Behind the Mask: Psychology of a Pandemic**
This course explores how our primitive emotion systems interact with complex perceptual and decision making capabilities in explaining how we respond to the uncertainty and anxiety of the Covid-19 pandemic.

Aaron Godlaski
Teaching Assistant: Shaw Qin

**The Politics of COVID-19**
The COVID-19 pandemic put the focus squarely on the institutions of the state and its capacity to mobilize public health resources and enforce full or partial lock-downs. State responses to the pandemic appeared to make it easy to compare the performance of governments and their leaders.

Paul Petzschmann
Teaching Assistant: Bjorn Holtey

**It’s the End of the World:**
Religion, Apocalypses, and the Cultural Politics of COVID-19
In this course, we will examine some of the ways that religious communities and the history of millennialist movements have shaped responses to the COVID-19 pandemic in the United States.

Liz Dolfi
Computer science students learned about finding computational solutions to two broad areas of interest: problems where the computer needs to perceive something about the world in which it lives, or alternatively problems where the computer needs to respond appropriately given a complex scenario. Students conducted research in 1 of 5 topics while experiencing class in other topics across the program throughout the 3 weeks.

**Research Topics**

**Natural Language Processing**

Natural Language Processing is a broad field that involves using computers to attempt to better interact with humans, either by understanding their speech or producing output that is easier for us to understand.

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<tr>
<th>Director: Dave Musicant</th>
<th>Teaching Assistant: Chisom Oguh</th>
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<td>Susan Fox</td>
<td>Piper Welch</td>
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**Computer Vision**

Computer vision examines how a computer can manipulate images to enhance them, to restore or combine images, and to extract meaningful information from images.

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<th>Teaching Assistant: Soren DeHaan</th>
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<td>Jed Yang</td>
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**Game Development**

Computer games may involve graphics, animation, sound, networking, physics, algorithms like minimax, heuristic search, and machine learning. Students learned to create 2D games using the Python programming language.

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<th>Teaching Assistant: Ben Aoki-Sherwood</th>
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<td>Bryce Wiedenbeck</td>
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**Game Theory**

Game theory provides a language for modeling incentives when multiple decision-makers interact. Students learned how to model incentives with utilities and predict decisions by computing an equilibrium.

**Geometric Modeling**

Everyday objects are produced by humans who use computers to craft their ideas about aesthetics and utility into 3D models and physical artifacts. Students explored the computer science of shaping objects.

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<th>Teaching Assistant: Quoc Nguyen</th>
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<td>Chris Johnson</td>
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The Humanities cultivate our awareness of the many factors and forces that shape the actions and beliefs of individual or group through time. Most of all, it strengthens our capacity to enter into the lives and thoughts of others so as to understand more fully, subtly, and sympathetically “what makes them tick,” a capacity that ultimately helps us be and do better in every aspect of our lives.

Research Topics

The Worlds of Machiavelli & Montaigne: Power, Knowledge, and Uncertainty in the Renaissance

In this course, we will explore how these two individuals understood the connection between knowledge, power, and identity and the ways in which they sought to help their contemporaries perceive and cope with uncertainty, deception, and controversial truths.

From Shakespeare to the Modern Stage: Passion, Politics, and the Arts of Performance

Beginning with Shakespeare and moving to the present day, this course explores a variety of plays as works of art, along with their social, intellectual, and political contexts.

Maps and Power in Renaissance Europe

Maps expressed power of all kinds, whether the power of knowledge, the power of access, or the power of control. In this course, students will learn to “read” early maps in order to order to understand the arguments they make and the kinds of power they express.
Local Applied Sustainability

Understanding how our behavior today influences our ability to meet the needs of tomorrow is critical to building a more resilient planet.

Participants in this program will learn how faculty from across the liberal arts curriculum are contributing to the global conversation of sustainability while investigating how initiatives in our own communities are striving to address environmental challenges that are globally relevant.

**Topics covered:**
- Geology and Sustainability
- Sustainability Agriculture
- Religion and Sustainability
- Art and Sustainability
- Conservation Psychology

**Final Project:**
- ESRI story map research project

**Program Director**
John Berini

**Guest Faculty**
- Dan Maxbauer
- Michael McNally
- David Lefkowitz
- Aaron Godlaski

**Teaching Assistants**
Rebecca Muhlheim
Rebecca Chen
Art in a Changing Landscape

An art practice can profoundly affect how we see and relate to our surroundings. This way of working can create a changed perspective, one that enables us to notice, reflect upon, and make connections to the world around us.

This course will primarily focus on observational drawing skills – drawing from life – to build an awareness of the environments in which we live, and to make connections between art and nature. The course structure will include thorough demonstration videos, drawing prompts, artist talks, directed readings, and consistent feedback. Students will develop a critical eye and a language for discussing their work.

**Final Project:**
- Portfolio of work created during the program
- An accordion book, which was crafted by the students themselves

**Teaching Assistants:**
- Ben Perry
- Martha Sudderth

**Program Faculty**
- Director: Eleanor Jensen
- Fred Hagstrom
- Dan Bruggeman