



The Roger Lehecka Double Discovery Center

Getting community youth to, through, and beyond college



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Although I'm in a Ph.D. program, I want my work to be in conversation with youth because it's ultimately for them. I've found that there can be a gap between those inside and outside academia, and DDC allowed me to bridge that gap. I am constantly looking for hybrid spaces that allow me to work with and serve Black and Brown youth. DDC gives me hope that they exist! Margaret Banks, Ph.D. Candidate in English and Comparative Literature, Columbia University, DDC Fellow.

A core element of the DDC model is its “double discovery” approach that creates opportunities for Columbia students to meaningfully engage the community by applying

their learning to real-world situations. As they help community youth build their overall college readiness, the Columbia students simultaneously deepen their knowledge of contemporary social issues and develop their professional skills. The learning is reciprocal and the benefit is mutual for the students from Columbia and the community.

DDC is one of the few college access and success programs in the country that leverages the expertise of an Ivy League to design and deliver rigorous comprehensive programs that immerse low-income and first-generation community youth into the world of post-secondary education. Just as there is a "double discovery" for the Columbia students who work with DDC, there is also a "double discovery" for the Columbia departments with which we partner. Through these partnerships, Columbia departments have an opportunity to introduce community youth to their fields, which can help build pipelines into various professions for young people from communities that are often underrepresented.

Columbia University Departments/Schools

Our partnerships across the campus allow us to offer students unique access to the pioneering research and intellectual capital of several Columbia departments and schools. This includes the Zuckerman Institute where students participate in the *Brain Research Apprenticeships in New York at Columbia* (BRAINYAC); the School of Engineering & Applied Sciences that introduces students to biomedical engineering design through *Hk Maker Lab*; Lamont Doherty Earth Observatory that provides an internship program in field and laboratory science ([*Secondary School Field Research Program*](#)) where students engage in hands-on learning experiences in Earth Science; the Center for American Studies that immerses students in an intensive seminar course on political philosophy through the *Freedom and Citizenship* program; and the Eric H. Holder Jr. Initiative for Civil and Political Rights that helps support DDC's civic engagement course.

These local students show so much motivation, it is very gratifying to be able to inspire their love of science and see the amazing things they come up with after I simply pointed them in the right direction. Researcher and volunteer mentor, Columbia's Zuckerman Institute.

Columbia University Students

Every year, undergraduate and graduate students volunteer as academic tutors, teaching assistants, and college success mentors to support DDC students' progress on their college journeys.

I was blown away by how committed and driven my DDC mentee was! I admire her for her dedication to succeed. I am a big fan of the DDC College Success Mentor Initiative, it has such a positive impact on both students and mentors! Coleman S., DDC mentor and CC'20

Columbia Graduate Students - The DDC Fellowship Program

Through DDC's Fellowship program, doctoral students across Columbia University, including Teachers College, are selected to design and deliver two academically rigorous courses each semester in the Humanities, STEM (Science, Technology, Engineering, and Math), or the Arts. The DDC Fellows program invites new connections with academic departments across the University and deepens the *double discovery* impact for both Columbia and community students. This year, DDC has five Fellows – Meet two of them: Monica Chan and Laina Dawes.

Monica Chan – Data Science & Social Good

Monica introduces high school students to the foundations of data science, which is all about analyzing and interpreting large amounts of complex data (big data) through statistics and computation. This analysis generates valuable insights on a wide variety of subjects, enabling

more informed and smarter decisions.

Data science has been called the “sexiest job of the 21st century” because it is a crucial management and decision-making tool in so many fields – public health, urban planning, and environmental science, among others. Data scientists are now very much in demand, as the ability to gather, understand, process, and translate data into visuals to communicate results is an extremely valuable skill.

“This very important subject usually would not be covered in depth in high school,” says Monica. “This course is pushing students to undergraduate level, introducing them to data science, and allowing them to experiment with processing real “big data.”

Students use *NYC Open Data*, open-sourced public data gathered and published by New York City agencies, to examine issues that affect their community, from eviction rates, to NYPD shooting incidents, to attendance rates in schools. They learn to use algorithms (sets of computer instructions to get a specific result) and data visualizations (clear and concise visuals of the data that tell a story) to effectively communicate complex quantitative ideas. Students experiment with pie charts, bar charts, pivot tables and graphics to make sure their visualizations are compelling presentations of information.

“I also show them how to critically think about their analysis further and ponder the ‘so what’ behind their research results,” says Monica. “For example, what are the factors that contribute to a higher eviction rate in some neighborhoods, how do unreported crimes modify the statistics, and how does the number of students in schools affect teaching quality?”

Fatoumata D., DDC’21: *“I learned about the crucial variables that must be included in any graph, like saturation, position, area, plots. I was surprised because I really didn’t think there were any strategies for creating a graph. I had never even thought about it before!”*

Alexandra N., DDC’22: *“I had no idea how accessible large datasets such as NYC Open Data are. I learned so much about all of the different things you can do with Excel/Google Sheets, especially the pivot tables. This is all new for me. I think I will be able to use all that I have learned in this class in the future.”*

Laina Dawes – Race, Class and Social Justice in the Humanities

“I am very interested in social justice activism,” says Laina, “and last summer we saw a surge in street protests all over the country. With this class, I wanted to show how data mining, a tool used by companies to solve problems and evaluate new opportunities, also applies to the Humanities, and specifically to issues of race, class and social justice.”

Students started by reviewing the infographics of W.E.B. Du Bois, the prominent 20th century African-American sociologist and civil rights activist who pioneered the use of data visualizations to illustrate institutionalized racism in the United States. *“Data mapping in the Humanities today is a continuation of W.E.B. Du Bois’ groundbreaking work,”* says Laina.

Students learn to analyze data from newspapers and online media, following the 5 W’s: Who, What, Where, Why and When. They grapple with "what is the problem?" "what is the solution?" and "what strategies are needed to productively address the problem?" They visualize the relationships between people and institutions, expand their thinking for designing interventions and develop concrete action plans to achieve solutions.

In addition to the data dive, students are assigned articles to help contextualization their work, such as [“What’s Happened to the People?” Gentrification and Racial Segregation in](#)

[Brooklyn](#). “We pick articles apart and extract as many details as possible,” says Laina. “This article raises the issues of ‘white flight,’ and ‘neighborhood gentrification.’ I want students to do a close read and carry out further research on related questions such as “why did the white population in Brooklyn fall dramatically in the 40s?” and “why did ‘white gentrifiers’ start coming back in 2000?”

Students also read the *New York Times* article, [How Decades of Racist Housing Policy Left Neighborhoods Sweltering](#). “I want students to research environmental racism,” and ask why some low income neighborhoods in the City have so much cement and barely any trees!” adds Laina,

Of students’ work on their final data-based projects on issues of their choice, Laina says “I admire my students’ thoughtfulness and critical thinking, they selected issues in their communities and really took ownership of their project.”

Miranda C., DDC’22: “I was aware of gentrification, but I did not know about redlining, now I want to learn more about these issues.”

Sade L., DDC’22: “I was surprised to learn how racism is still affecting us today because of rules and regulations that existed a while ago.”

In his own words - We invite you to listen to [Brian Sarfo talk about his engagement with DDC and his passion for the mission](#)



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