



Summer 6-21-2016

Splice Test

Kim Hill
Illinois Wesleyan University

Follow this and additional works at: <https://digitalcommons.iwu.edu/news>

Recommended Citation

Hill, Kim, "Splice Test" (2016). *News and Events*. 2803.
<https://digitalcommons.iwu.edu/news/2803>

This Article is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

SPLICE Gives Incoming Science Students a Head Start

June 21, 2016

BLOOMINGTON, Ill.— In a lab on the campus of Illinois Wesleyan University, Jaeden Lee analyzes a sample of his own DNA. Having graduated from Niles West High School less than a month ago, Lee is not a fully matriculated student at Illinois Wesleyan – at least, not quite yet. But he’s getting there, thanks to a program designed to help select incoming students transition to college science courses before the fall semester begins.

Lee and 10 other students have given up a week of their summers between high school and college to attend SPLICE (Science Program for Leadership, Inquiry, and Campus Engagement). An initiative of faculty members David Bollivar and Rebecca Roesner, the program connects incoming students to faculty and current students through laboratory sessions, sample general biology and chemistry classes, and introductions to study skills and library resources. All meals, lodging in a residence hall, and activities are free to the participants.

National studies indicate college students who start in the science, math or engineering (STEM) disciplines and then switch majors over their first two years do so for a variety of reasons, including loss of interest, concern that STEM careers would not be personally fulfilling or contribute meaningfully to society, inadequate preparation in high school, or lack of academic or social support. Bollivar and Roesner reasoned that a program to help incoming students connect earlier and feel more prepared for Illinois Wesleyan’s academic rigor would likely show improved learning and would increase likelihood of retention.



The SPLICE program has shown success in helping students successfully transition to college courses.

to Bollivar, the Miner Linnaeus Sherff Endowed Professor of Botany.

Every student who has participated in SPLICE as an incoming student is still enrolled at Illinois Wesleyan, Bollivar said. “A number of these students continued as science majors but that’s not the biggest concern,” he said. “The biggest success is having them stay at Illinois Wesleyan and feel connected to the faculty and to the institution, gain experience, and feel comfortable with being on campus.”

Angela Whiting ’20, a member of this year’s cohort, said participating in the program changed her perception of college professors. “The most surprising thing has been how nice the professors are,” said Whiting, who plans to major in [biology](#) at Illinois Wesleyan. “I had this picture in my head that college professors were unfriendly and wouldn’t want to talk to anyone. I am glad to find out I was completely wrong.”

She called the SPLICE program “amazing.” Her participation has taken away much of her anxiety of starting college, she said. “In August I will be much more prepared and better suited for college life.”

Her peer Samantha Ziomek ’20 said the program offered “the first, real taste of research” and said her favorite lab work involved designing experiments with advice from Associate Professor of Biology Will Jaeckle to determine how *artemia* digest food. Breeds of *Artemia* are sold as novelty gifts under marketing names such as *sea monkeys*, so these invertebrates are crustaceans nearly everyone has seen, yet there’s much scientists don’t know about them, Ziomek said. “I loved that Dr. Jaeckle had us doing experiments where the answer isn’t already known and you don’t know what you’re going to get.” Ziomek plans to major in biology and complete the courses in the [pre-medicine program](#).

The lab work, and particularly the sophistication of the equipment, also impressed Lee, who plans to major in [chemistry](#) and follow the pre-med program. But he’s been equally impressed with his peers and getting to know them. “Last night we all decided to stay in one person’s room and study together for our biology quiz today,” he said. “The bio majors helped the chemistry students, and vice versa. Talking with my peers and figuring out their strengths and weaknesses, that’s been my favorite thing.”

Lee said he was hesitant at first to attend SPLICE and give up a week of his last summer with high school friends before everyone scatters to points across the country. “I am so glad now I did this,” he said of SPLICE. “I feel a lot more comfortable. I can’t wait until school starts.”



Professor Dave Bollivar helps SPLICE program students run an agarose gel for analysis. Students used their own DNA in the lab session.

Illinois Wesleyan historically enjoys a high retention rate, with a 91 percent retention rate reported in the 2015-2016 academic year. For even one student, however, failure to successfully complete a first-year science course disrupts a student’s academic plan and can create feelings of inadequacy, parental disapproval, and feared or actual loss of merit aid can follow.

“The science faculty had been devoting considerable effort to working with first-year science students who had become overwhelmed or had fallen behind,” said Roesner.

“We thought how much better it would be to reach out to students before they matriculated — to prepare them for the transition, guide them around the pitfalls and help them build a support network of science peers and faculty and staff mentors.”

After piloting the idea in 2014 and 2015 thanks to the University’s Donnocker Innovation Fund, the program is now in its third year and has been a success, according



Associate Professor of Biology Will Jaeckle leads a SPLICE program lab session on brine shrimp.