

The logo for the Center for Teaching and Learning (CTL) is displayed in a large, white, serif font on a black background, tilted at an angle.

# ON THE CUTTING EDGE

## Math Camp: A Collaborative Intervention Partnership Project by Cat Gaspard, Ph.D.

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*As the University Liaison for Northridge Academy High School, Dr. Gaspard shares her involvement with and creation of their Summer Math Camp in this edition of "On the Cutting Edge."*

Summer Math Camp at Northridge Academy High School (NAHS) is a collaborative intervention partnership project with CSUN, created in response to a school-identified need to improve students' success in mathematics. Math Camp is a four-week program meant to prepare students in mathematics, as well as develop their socioemotional skills. They explore topics foundational to algebra, with activities involving group tasks, writing tasks, and presentations, as well as a web-based individualized targeted intervention, ALEKS, an artificially intelligent assessment and learning system. Along with math, students also participate in team-building and mindfulness activities in order to introduce them to the NAHS culture, decrease anxiety, and build self-esteem. Math Camp teachers also benefit from this program, having the opportunity to collaborate daily and investigate a variety of different instructional practices and activities using frameworks from the Common Core State Standards in Mathematics and Mathematical Practices and research in mathematics education. Math Camp has continued to grow since its 2015 inception. Goals for Math Camp 2018 are to reach 150 freshmen, 20 sophomore Ambassadors, and 4 CSUN undergraduate math majors. New this year is an Institute where principals, superintendents, and teachers interested in dissemination will have the opportunity to visit NAHS.

Math Camp doesn't just focus on content; it looks at mindset as well. Students need to believe they can do math before they will actually think about it. The curriculum is unique in that tasks are "safe;" work is centered on interpretation and exploration, not just the answers. Considering students' attitudes towards learning math along with the standards provides them a more complete intervention. At NAHS, such an intervention was necessary.

For a number of years, NAHS' parents, faculty, and administration were concerned with students' low levels of success in math classes and state standardized tests. For example, in November 2014, almost 70% of freshmen were failing Algebra 1, while a similar percentage of sophomores and juniors were failing Geometry and Algebra 2. Results from Math Camp 2015 showed students had an average of 8% growth in mathematical knowledge, as well as an overall increase in attitudes toward learning math and a decrease in anxiety about math problems. Math Camp 2016 showed an average of 14% growth in mathematical knowledge and 35% in 2017. Increases in positive attitudes and decreases in nervousness and anxiety were shown, especially in females. Looking at how Math Campers did in their first semester 9th grade math class, results as of December 2017 showed 40% of students were failing Algebra 1, compared to 70% in 2014.

CSUN's ongoing commitment to community-based projects, and to the particular partnership with NAHS, led to the collaborative development of Math Camp 2015 to help NAHS's students improve their success in mathematics learning at the high school level. CSUN's involvement, although driven by the needs and goals of NAHS, is also a response to the goal of preparing high school students for achievement at the university level.

**Dr. Cat Gaspard** is an Assistant Professor in the Department of Secondary Education in the Michael D. Eisner College of Education at CSUN. Her entire career has been dedicated to mathematics education, with 14 years as a middle school and high school mathematics teacher, as well as 5 years as a professor of mathematics education. For the past 10 years, her focus has been on mathematics intervention programs and more specifically, how reducing stress and anxiety in students improves their mathematical learning.

## Math Camp: A Collaborative Intervention Partnership Project Interested in Learning More About Math Camp?

Tours of Math Camp will be available this summer (to administrators and teachers)  
on July 10th, 11th, and 12th (8:30 - 10:30) at  
Northridge Academy High School  
9601 Zelzah Ave, Northridge, CA 91325

RSVP for 1 day to [cathy.gaspard@csun.edu](mailto:cathy.gaspard@csun.edu) by June 22nd.

Tours will include an info session exploring the  
curriculum, budget, and structure for implementation.

## Interested in Learning More About the Mindfulness Curriculum at Math Camp?

Here is a link to the website of MindfullyU.  
Math Camp uses 4 of their 16 mindfulness lessons.  
They offer elementary programs as well.  
<http://mindfullyu.net>

## Interested in Learning More About the Mathematics Curriculum at Math Camp?

Contact [cathy.gaspard@csun.edu](mailto:cathy.gaspard@csun.edu) for a sample of Week 2.

## Want to Learn More About the ALEKS Online Individualized Intervention?

Want to learn more about the ALEKS online individualized intervention?  
Here is a link to the Mc-Graw Hill website:  
<https://www.aleks.com>

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