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To: UC Campus Admissions Directors

This letter provides further clarification of UC's geometry requirement for the mathematics ("c") subject area, and additional guidance to UC campuses on the validation options to fulfill the geometry requirement for UC freshman admissions.

Background

BOARS' decision to implement the geometry requirement was based on recommendations from a task force convened by BOARS in 2007 to study the UC/CSU mathematics ("c") subject requirement. The task force included faculty from the University of California, California State University, California Community Colleges, and California high schools. It agreed that geometry is integral to college-preparatory mathematics education, and that because courses following a high school geometry course typically do not contain much of the critical geometry material, they are not considered appropriate substitutes for geometry. In other words, the majority of higher-level math courses do not "validate" geometry. The important topics in geometry for college readiness are outlined in the 2010 Intersegmental Committee of Academic Senates' [Statement of Competencies in Mathematics Expected of Entering College Students](#) (revised May 2013).

High school educators statewide were notified in June and October 2012 that this updated UC policy was set in Spring 2009, and the phase-in implementation would be as follows: *All students applying to UC during November 2014 for admission to Fall 2015 must have completed a geometry course, or an integrated math sequence that includes sufficient geometry, to meet area "c." To be clear, the omission of Geometry is not validated by subsequent courses such as Algebra II, Trigonometry, Math Analysis, Statistics, Pre-Calculus, or Calculus.*

Validation Options for Geometry

The current validation options to fulfill the geometry requirement are as follows:

- **No validation of course omission:** The omission of either a geometry course, or an integrated math course that includes geometry content (e.g., Mathematics II under the California Common Core Standards), cannot be validated by higher-level math courses, such as Algebra II/Trigonometry, Trigonometry, Math Analysis, Statistics, Pre-Calculus, or Calculus, taken at the high school or college level. Furthermore, the omission of a geometry course, or integrated math course with geometry, cannot be validated with any standardized examination score (e.g., SAT or ACT).

- **Validation of deficient grade:** If a student completes geometry, or integrated math with geometry, and receives a deficient grade (D/F), the student can validate the grade deficiency by completing at least the first semester of an advanced-level math course. A complete chart of mathematics validation that details which math courses will validate deficient grades in a geometry or integrated math course is included in UC’s [Quick Reference for Counselors \(2015\)](#) (see p. 17).
- **Validation by examination:** A student may take a “challenge” exam administered locally at the student’s high school to demonstrate proficiency in geometry. Such an exam might be, for example, the final examination offered in the high school’s geometry or integrated math course. If the high school recognizes the student’s performance on the “challenge” exam as evidence of the student’s subject knowledge, and awards both grades and units for the completion of a course in geometry or integrated math with geometry, UC will consider the geometry requirement fulfilled.

Impact of Policy Implementation

UCOP Undergraduate Admissions generated the descriptive data charts below for 2015 and 2016. They show the percentage of freshman applicants with no course in geometry, or no integrated mathematics that includes geometry content (e.g., Mathematics II), is down to **4.0%**, compared to 9.2% in 2012. As California high schools further their implementation of Common Core Math Standards, it is very likely that the percentage of resident freshman applicants lacking either geometry or integrated mathematics with geometry will continue to decline.

	Fall 2015		Fall 2016	
Total Freshman Applicant Count	158,360		166,476	
Applicants <u>without</u> geometry or integrated math reported as a 7th or 8th grade course or part of their high school record				
CA Resident	516	0.3%	623	0.4%
Domestic	1,508	0.9%	1,666	1.0%
International	4,373	2.8%	4,496	2.7%
Total without Geometry/Int Math	6,397	4.0%	6,785	4.1%

Applicants <u>with</u> geometry or integrated math reported as a 7th or 8th grade course or part of their high school record				
CA Resident	102,617	64.8%	104,775	62.9%
Domestic	28,967	18.3%	31,907	19.2%
International	20,379	12.9%	23,009	13.8%
Total with Geometry/Int Math	151,963	96.0%	159,691	95.9%

Applicants who reported taking geometry as a 7th or 8th grade course				
CA Resident	21,830	13.8%	24,423	14.6%
Domestic	8,112	5.1%	9,609	5.8%
International	12,646	8.0%	14,631	8.8%
Total with Geometry 7th/8th	42,588	26.9%	48,663	29.2%

Source: University of California’s applyUC database as of 3/28/2016.

Conclusion

The California Common Core Standards for K-12 expect students to complete either geometry or integrated mathematics during high school. As such, BOARS anticipates declining numbers of high school students who do not report completing a course that addresses or integrates geometry. Given these expectations, and the current validation options for UC's geometry requirement, BOARS has decided no further policy action is required at this time.

UCOP Undergraduate Admissions will provide updated instructions in the Fall 2017 UC admissions application to address the numbers of international applicants reportedly not meeting the geometry requirement. The revised instructions will be geared toward international students and will clarify that integrated math courses with geometry content may be equated with a standard course in geometry. Ultimately, any student without a course that satisfies the geometry requirement may still be admitted to UC by means of "admission by exception."

Finally, BOARS acknowledges the complexity and volume of inquiries about the geometry requirement that UC campus Admissions Offices have fielded over the last several years, and we appreciate your collaborative efforts to assist with UC's "a-g" policy implementation. To achieve our shared goal of offering prospective UC freshmen and high schools throughout California clear guidance on the geometry requirement, BOARS will rely on UCOP Undergraduate Admissions and your respective campus Admissions Offices to disseminate to K-12 educators any additional communications, as needed, to outline the rationale behind UC's geometry requirement – including how it supports California Common Core Mathematics Standards implementation – and to reiterate the geometry validation options.

Sincerely,



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BOARS Chair

cc: BOARS
Associate Vice President Handel
Director Treviño
Associate Director Lin