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*Chair of the Assembly of the Academic Senate  
Faculty Representative to the Regents  
University of California  
1111 Franklin Street, 12th Floor  
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February 14, 2020

**JANET NAPOLITANO, PRESIDENT  
UNIVERSITY OF CALIFORNIA**

**Re: Assembly Action on Revisions to Senate Regulation 424.A.3 (Area D)**

Dear Janet,

At its February 12 meeting, the Assembly of the Academic Senate approved a set of additional recommendations related to the Area D (“Laboratory Science”) freshman admission requirement. (The recommendations were approved by voice vote, with one abstention, and no nay votes.) The recommendations build on the Assembly’s February 2018 [revisions](#) to Senate Regulation 424.A.3 ([amended in April 2019](#)), in light of a new [Public Policy Institute of California \(PPIC\) report](#). Please recall that the February 2018 policy had three components:

1. Increase the minimum Area D requirement from two courses (three recommended) to three courses, while continuing to require that two courses “provide basic knowledge in at least two of the fundamental disciplines of biology, chemistry, and physics”;
2. Change the name of the requirement from “Laboratory Science” to “Science”; and
3. Broaden the range of science disciplines to be accepted for the third course.

The Senate intended the original revisions to increase science literacy and align UC’s expectations for science preparation with changes to high school curricula based on California’s adoption of the Next Generation Science Standards (NGSS) for grades K-12. However, the proposal to increase the number of required Area D courses was put on hold due to concerns about its potential effect on the eligibility of students in high schools that do not offer three science courses. We know that at least 20 California high schools do not offer more than two Area D science courses, and that students in these schools are more likely to be from underrepresented backgrounds. UC commissioned the PPIC study to further analyze the effect of the changes. Key PPIC study findings revealed:

- 19% of high school graduates who have otherwise satisfied the A-G requirements may be affected by the proposed Area D increase.
- Asian American and white students are more likely to meet the new requirement than Latinx or African-American students.
- Many affected students are likely to start the Area D sequence late, specifically those who did not take a Science course in 9<sup>th</sup> grade.
- Although affected students may have a high probability of taking another year of Area D, many do not partly because of institutional factors such as course placement, grading policy, course validation rules, counseling, and scheduling.

- In a separate analysis, UCOP found that while 94% of all UC freshman applicants completed the three recommended Area D science courses in fall 2019, percentages were lower for underrepresented groups (91%).

The Assembly recommends the following:

1. Maintain the Area D requirement at 2 years of science required and 3 years recommended.
2. Work with UC outreach and educational partnership programs to continue advising students and their families on the importance of rigorous science and math preparation.
3. Engage in vigorous education, outreach, and support via UCOP High School Articulation to encourage high schools to redesign Area G science elective courses for Area D approval, to increase the number of overall eligible students and eligible URG students.
4. Leverage the online curriculum design and implementation expertise of *UC Scout*, whose mission is to reach educationally disadvantaged students across the state, raise achievement levels, and close educational opportunity gaps.
5. Extend the reach of the UC California Science Project, which provides a statewide infrastructure for high-quality professional development for pre-K through university teachers, with the goal of improving science education for all California students, and a special focus on the needs of English learners and high-need schools.
6. Capitalize on the commitment from the Lawrence Hall of Science at Berkeley to conduct direct outreach to all public high schools in need of support with NGSS implementation.

In addition, the Assembly asks you to convey to the state the Senate's dismay that some California public high schools are not offering at least three science courses that meet Area D requirements, and urge the state to ensure that all public high schools offer at least three science courses eligible for Area D approval. The Assembly also asks you to convey that the current underfunding of the University limits its capacity to increase our outreach and support to California K-12.

The Academic Senate intends to reconsider within five years the possibility of requiring three Area D Science courses, with the expectation that all California high schools will by then be offering three NGSS-aligned courses, taught by qualified teachers. In addition, BOARS will develop short- and long-term strategies for tracking the equity gap.

We note also that the Academic Senate has published changes to Regulation 424.A.3 reflecting the change from "Laboratory Science" to "Science." Language about broadening courses eligible for fulfilling the third recommended Area D course appears in the A-G Policy Resource Guide, maintained by public UCOP Student Affairs. <https://hs-articulation.ucop.edu/guide/a-g-subject-requirements/d-science/>

Please do not hesitate to contact me if you have additional questions.

Sincerely,



Kum-Kum Bhavnani, Chair  
Academic Council

cc: Provost Brown  
Assembly Members  
BOARS  
Senate Directors