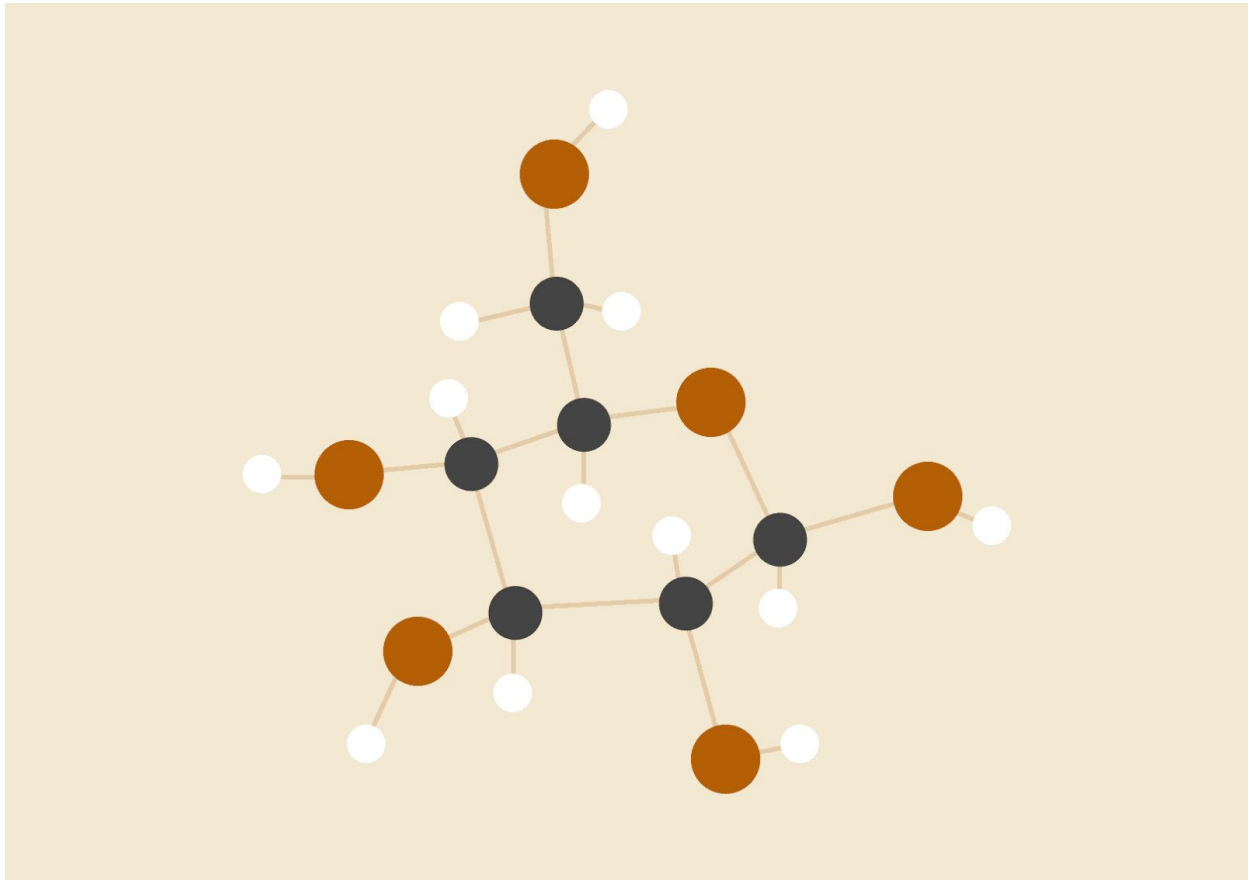


Arts & Sciences Efficiency Report



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PURPOSE

To identify potential cost savings for the University of Hawai'i Community Colleges as a whole through reducing the number of unfilled seats in courses with multiple sections while ensuring students' access to courses that meet degree requirements in the AA in Liberal Arts, AA in Hawaiian Studies and AS in Natural Science.

ASSUMPTIONS

A three-year average enrollment is an accurate reflection of enrollment trends, including pre-COVID semesters.

Data extracted at census are an accurate reflection of student demand.

METHODOLOGY

Data at census were extracted from ODS data warehouse: Fall enrollments in AY18, AY19, and AY20; Spring enrollments in AY19, AY20. The data extracted were the courses offered in that semester, the number of sections offered, the students enrolled, and the course enrollment cap. The enrollment cap was averaged. Based on the number of sections offered and the average class cap, the number of available seats was calculated. The number of available seats minus the number of students enrolled gives the total number of empty seats in the course. Then, the average number of empty seats for each course was calculated and divided by the average course enrollment cap to generate the number of excess sections.

In the attached spreadsheet, "11.20.20 CP," the data for each semester are reported for all courses and for courses aggregated into disciplines. The data included in the document entitled "Course Document" are divided into two tables: (1) courses with multiple sections and excess capacity and (2) singleton courses with excess capacity. While our analysis focused on Arts & Sciences courses, the data are for all courses and thus, relevant for use by other groups.

Other documents are submitted to assist in the planning of system-wide schedules. The file "UHCC_Active_Course_Listing_2019_2020_2021_20201117" includes all courses offered by all campuses, along with fill rates, enrollment and average class size. "COURSES WITH 2 OR MORE EXCESS SECTIONS OFFERED ONLINE" is an inventory of the high frequency classes with excess capacity systemwide. Finally, "UHCC Low Enrolled Lecturer-Taught Classes Fall 2019" is an inventory of low enrolled classes in Fall 2019 and whether those classes were

taught by lecturers or FT faculty. Combined, these data can assist department chairs and deans in determining (1) which campuses offer which courses (in case a campus wants to stop offering courses taught solely by lecturers and wants to ensure access for students, (2) which low-enrolled classes on the campus may be assigned to a FT faculty member on their campus or to help fill out a FT faculty member teaching under-enrolled classes on another campus and (3) which high-frequency courses with excess capacity can be optimized across the seven campuses.

RESULTS

The data show that overall, mathematically, the Fall schedule across the seven campuses could be reduced by 251 sections; course offerings in the Spring schedule could be reduced by 270 sections. However, a more careful analysis, focusing on those courses that would have the highest impact, the Fall schedule could be reduced by 133 possible sections overall; 107 in Arts and Sciences and Spring by 164 possible sections overall of which 121.8 for Arts & Sciences only.

If we assume that all sections were taught by lecturers, at the “B” level as an average, and all sections averaged 3 TEs, the savings resulting from simply more efficient scheduling would amount to $\$1,961 \times 3 \times [133 + 164] = \$1,747,251$ for all courses and $\$1,961 \times 3 \times [107 + 121.8] = \$1,346,030.40$ for Arts and Sciences.

DISCUSSION

The data presented in this report can serve as the basis for implementation of the strategies identified by the UHCC systemwide work groups for the AA in Liberal Arts and the AS in Natural Science, excerpted below.

Generally, historical enrollment in specific disciplines and courses should be assessed across the UHCC campuses to reduce empty seats and possibly reduce course sections and cost without impacting course availability for students. Courses that have historically been offered online can be offered to all UHCC students, strengthening enrollment in those sections. Courses that have a physical presence, or where distance learning is impractical, should rotate among the UHCC campuses strengthening enrollment where practicable.

Sections of courses offered at the start of the registration period should not exceed the historical number of sections needed for the community colleges.

For the AA LBART

- Schedule low-enrolled courses more strategically, efficiently, and cost effectively
- Conduct an analysis of the percentage of low-enrolled and under-filled courses in the AA program across disciplines and campuses
- Examine classes based on actual fill rate per maximums stipulated in Banner (not KSCM), using census data
- Establish UHCC standardization for (1) Extracting data to best gauge course demand, for historical trends and future projections, (2) Using course fill-rate as a measure of efficiency; (3) Determining max-enrollment for courses

For the ASNS

- Some campuses may need to give up offering classes that are chronically low-enrolled.
- Consolidate low-enrolled classes through DE, rotating offerings at different campuses.
- Offer lower-division physics, engineering, or other specialty courses online via a rotating assignment schedule in the UHCC system.
- Coordinate with other O'ahu campuses that offer lab classes requiring face-to-face components.
- Adjust interdepartmental full time faculty duties instead of hiring lecturers/ or underloaded faculty at one campus could teach a course at another campus instead of hiring a lecturer.

RECOMMENDATIONS and SUGGESTIONS

Schedule classes system-wide. Possible implementation strategies: (1) where there is limited capacity across the seven campuses, one or two campuses can offer classes online, (2) where there is capacity on all campuses to offer the courses, campuses can rotate offering.

Provide department chairs with access to the system-wide data they will need to schedule. A dashboard can be created with multiple years of historical data to enable collaboration among chairs across the community colleges, including courses offered 100% online (pre-COVID or post-COVID, when the time comes).

Provide easy access to a system-wide schedule for counselors and advisors. Enabling or developing STAR options during the registration process, making registration across the different campuses more practical and efficient.

Discontinue rolling the Fall-to-Fall and Spring-to-Spring schedule. Make use of existing data and dashboards to forecast enrollment and scheduling across the UHCC system.

Standardize course enrollment caps across the UHCC system.

NEXT STEPS

The systemwide work groups should be provided with these data and recommendations to begin implementation. Some strategies could, in fact, be applied as early as the Spring 2021 semester.