UNIVERSITY OF CALIFORNIA
ACADEMIC SENATE
SANTA BARBARA DIVISION
Council on Planning & Budget

September 23, 2022

To: Susannah Scott, Divisional Chair
UCSB Academic Senate

From: James Rawlings, Chair
Council on Planning & Budget

Re: CPB Report on Summer Sessions

During the 2021-22 academic year, the Council on Planning & Budget (CPB) conducted an analysis of UCSB Summer Sessions, culminating in the attached report. The study included an analysis of the funding model and the budgetary impacts of summer classes across the campus.

CPB requests that this report be shared with the Executive Vice Chancellor and other campus administrators to provide information and guidance for better campus planning of summer session activities.

cc: Shasta Delp, Academic Senate Executive Director
Rene Weber, CPB Chair 2021-22

CPB Report on Summer Sessions

Committee on Development & Community Relations
2021-22 Academic Year

Brice Erickson, Upamanyu Madhow, Cristina Marchetti (Subcommittee Chair), France Winddance Twine, and Rene Weber (CPB Chair)

September 23, 2022 (Final)

The CPB Committee on Development & Community Relations (*Budget & Development Committee*) has been charged with examining how UCSB selects and runs Summer Sessions, with the goal of assessing whether summer courses could provide both relief from enrollment pressure and a source of revenue. The subcommittee plus CPB's Chair Rene Weber engaged in in-person and email discussions and met with Leesa Beck, Director of Summer Sessions on March 3, 2022. In addition, the subcommittee obtained two separate databases: summer school's financial database and summer school's enrollment database. The subcommittee developed a tailored algorithm which enabled both the committee and Summer Sessions administrators to merge the two databases accurately and efficiently. The present document summarizes the issues discussed and the results of a first, integrated analysis of Summer Sessions' financial and enrollment data.

The subcommittee started with the premise that demand for summer courses has increased and will continue to increase due to enrollment pressure, as enrollment pressures have created a situation in which there is too much demand. Students cannot take classes they need to graduate (e.g., intro biology) during the academic year due to too high demand. This also means that many students end up taking 5 years (or more) to complete their degree (or even leave UCSB without a degree). Therefore the subcommittee wishes to determine whether expanding the summer offerings can relieve the above pressure while at the same time providing substantial revenue for the University. In addition, the subcommittee is interested in reviewing Summer Sessions' planning of course offerings with the goal to provide recommendations that may have the potential to further increase Summer Sessions' revenue and profit potential. The meetings with Leesa Beck were very illuminating, especially regarding how the summer curriculum is planned. The subcommittee and CPB Chair Rene Weber would like to commend Leesa Beck for all the information she has shared with the subcommittee and especially for providing the subcommittee with the databases that are needed for a data driven review.

Conclusions and Key Recommendations

On the basis of the information and findings summarized below, the Subcommittee puts forward the following conclusions and recommendations:

- Improved communication is needed between departments and OSS to make it clear that the budget proposed annually from OSS is not fixed, but merely a first

suggestion, and that in fact OSS is keen on receiving input from departments and on running any course that it deems needed and profitable.

- More data are needed to assess how much revenue summer courses generate and more transparency is recommended in communicating these findings and how the profits generated by summer sessions are used.

- The analyses presented in this report show that the majority of all summer courses are highly profitable. The Subcommittee recommends an increase of the return (currently very small) of revenue from summer sessions to departments to incentivize more course offerings by faculty. OSS strongly supports this recommendation.

- Departments should be encouraged to rethink how they approach summer quarter, and provide more opportunities for those faculty who want to teach in summer. While departments can choose to prioritize junior colleagues in granting summer teaching opportunities, the higher salaries of senior faculty should not be used to exclude them from teaching opportunities. The analyses presented here show that most summer courses are profitable even at low(er) enrollment numbers and higher instructor salaries. Departments should be focused on offering all courses that address important teaching needs to alleviate enrollment pressure and for which a qualified instructor is available.

- While remote teaching leads to the highest profits for summer courses, and students' demand for remote courses during the summer term seems to be increasing, more data and analyses are needed across disciplines before shifting more courses from in-person to remote teaching. Summer course profitability should be evaluated in the context of teaching quality and outcomes. The Subcommittee believes that it is too early to conclude that remote teaching is appropriate for all courses.

Background

Leesa Beck, UCSB Summer Sessions Director, provided very helpful background information to the committee. The following information covers the 5 year period between 2017 and 2022:

- About 10,000 students enroll in summer courses annually. These are mostly upper division students.

- The courses that most appeal to students are: (1) Courses that fill Major or GE requirements (especially those that fill multiple requirements) and are impacted by high enrollment during the regular academic year; (2) interdisciplinary courses; (3) courses with perceived value on the job market (e.g., programming, data science).

- Strong increase in summer enrollment during the Covid pandemic, unclear if it will last (recent enrollment data from 2022 shows a downward trend in enrollment).

- Students pay on a per-unit basis, which tends to disadvantage lower income students; some financial aid is available but much less than during the academic year.

- Summer course revenues are listed in UCSB's budget under tuition and fees. In 2021 the Summer courses revenue was approximately $29M out of a total tuition and fees revenue of $455M (or 6.4% of total tuition and fees).

Summer Curriculum Planning and Revenue

Despite contrary information shared with the subcommittee from department chairs, departments do not get a fixed budget from the Office of Summer Sessions (OSS). OSS is in fact very keen on offering any course that it deems profitable (based on historical enrollment and demand data), and for which a good instructor can be identified. The process of preparing the summer curriculum is iterative: OSS proposes a set of courses and associated budget to each department and makes it clear that this is a proposal, not a budget set in stone! The department is then encouraged to suggest changes and additional courses, regardless of the initially proposed budget. As the subcommittee has received contrary information from department chairs, it is quite possible that some departments incorrectly interpret the OSS proposal and the proposed budget therein as a fixed budget. There are a few issues here where OSS, CPB, and the larger UCSB administrative body may be able to play role:

- There is a need for improved communication between departments and OSS to make it clear that the budget is not fixed and in fact merely a first, proposed budget.

- OSS would strongly support an increase of the return (currently very small) of revenue from summer courses to departments to incentivize more course offerings by faculty.

- OSS has provided financial and enrollment databases that will allow the subcommittee (and subsequently OSS) to better quantify profit margins from summer courses and study their relationship to individual programs, session time, etc. This may provide concrete recommendations for expanded (or reduced) summer course offerings in individual programs.

Summer Courses Staffing

The subcommittee has identified and discussed a few issues concerning the staffing of summer courses:

- The availability of instructors for summer courses varies greatly among disciplines. It seems that in some units, especially in the humanities and social

sciences, faculty are very keen on teaching summer courses for additional income and to address enrollment pressure, and the prospect of summer teaching is used as a tool for recruitment of junior faculty. The incorrect perception of a fixed budget for summer courses (determined by OSS) that some departments seem to have resulted in unhealthy competition and sometimes the denial of opportunity for faculty to teach summer courses. This highlights the urgent need for OSS to clarify to all departments that the budget for summer courses is not fixed. Summer Sessions' Director Leesa Beck, reiterated this point to the committee multiple times. Moreover, in science and engineering departments, where faculty receive summer salaries on research grants at a higher proportion, and graduate students are often supported as research assistants over the summer or secure industry internships, the situation differs greatly from the humanities and social sciences. Consequently, it can be more challenging to staff summer courses in science and engineering, which are typically taught by lecturers or graduate students. The committee's quantitative analyses of financial and enrollment data (see below) can provide further insights on this issue.

- The compensation scale for summer teaching is available online: The remuneration is 8.5% (about 1/12th) of the annual base salary for each 3-5 quarter-unit course. At UC semester campuses, the pay rate is 11% (1/9th) for each 3-5 semester-unit course. There was some discussion of the merits of a fixed amount versus a percentage, but the committee agreed that a percentage is preferable because a fixed amount would be a disincentive for more experienced instructors. The percentage was reduced from 1/9 to 1/12 in 2008 for quarter-unit courses due to the financial crisis and to reflect the different amount of contact hours between quarter- and semester-unit courses. Given the substantial revenue associated with quarter-summer courses, the committee recommends the return to 1/9th per 3-5 quarter-unit course to increase the incentive for course offerings. The committee's quantitative analyses of financial and enrollment data (see below) can provide information on quarter summer courses' profitability that may justify a return to a 1/9th compensation for each 3-5 units course.

- Summer graduate teaching associates (GSAs) are paid only 60% of their academic year pay. The committee and OSS could not identify a reasonable explanation for why this is the case. The current pay rate is limited by the tenets of the union contract, but an increase in pay should easily receive union support.

Modes of Summer Instruction

The majority of summer courses are currently offered as traditional in-person courses (remote instruction was only possible during the peak of the Covid-19 pandemic). Thus, students are required to be in residence during summer sessions, which is expensive. The committee recommends thinking creatively about modes of summer instruction:

- Summer courses provide opportunities to reimagine and develop new modes of instruction, which could include virtual and hybrid teaching. Summer courses offer the opportunity to introduce new courses, perhaps bootcamp-style courses.

- Currently space is more easily available in summer session This could ease the pressure on high-enrollment required laboratory courses in the sciences.

- Smaller enrollments can provide students with a richer experience.

The campus could benefit from the establishment of a formal approval process for online or hybrid summer courses. Since the pandemic, the appeal of remote/online courses appears to have increased with many students favoring them over in-person courses. In fact, instructors who offered courses remotely/online experienced, overall, fuller classes and over-enrollment, while instructors who complied with UCSB's directives saw their enrollment decline. The committee recommends the establishment of some remotely taught courses for instructors who are interested in teaching remotely. However, this would require balancing the demands of increased enrollment with the desire to provide a more rewarding experience for students. More thought will need to be given by various departments as to how to define quality given that larger course enrollments could eliminate some of the pre-pandemic benefits of teaching in the summer. The challenge of measuring teaching quality for remotely offered summer courses (e.g. specifying the quantity and type of exams) will have to be carefully addressed.

In Summer 2022, summer sessions conducted a survey of students' experiences in courses that were remotely taught due to the COVID pandemic. According to the preliminary results (source: Leesa Beck, Director of Summer Sessions), 80% of students said they felt they learned as much or more in their remote/online class as they would have in a similar in-person class. On a five-point scale, they rated their overall learning as a 4.1, and about 40% said they would probably not have taken the course had it not been online.

Quantitative Analyses of Summer School's Financial and Enrollment Data

The committee has requested the following information from OSS for summer classes offered within the past five years: (1) class identifiers (year, department, course number/title, lower/upper division, units, session); (2) actual and maximum enrollment numbers; (3) revenues & costs (instructor salary, administrative fees, other costs). At the present time, the requested information is not stored in one cohesive database that would allow a comprehensive cost-revenue-profit analysis across years, departments, sessions, and individual courses. In fact, according to OSS's information, the relevant information is currently only available across multiple databases on campus without a common "key variable" that would allow a simple joining of databases (e.g. a common key for individual courses). As a further complication, retrieving data from the various databases requires a substantial amount of manual work, which is prone to errors and involves the collaboration of UCSB staff across administrative units. Nevertheless, OSS has obtained the data and made them available to the committee in two separate, non-joined databases; one containing all financial information for summer courses, and

one containing all enrollment data for individual summer courses. Subsequently, the committee was able to use advanced string-matching and data joining algorithms via a custom made and easy to apply Python script, which enabled the committee to join the relevant data for 95% of individual summer courses in the years 2017 to 2021. The Python script will be made available to OSS and will allow for easy, fast, reliable, and accurate joining of planning data in the future.

The committee also requested the questions and data of OSS's "Student Interest Survey," which OSS conducts ahead of summer school budgeting and planning in some years. This data is a great source of information for departments' planning and allows OSS to make informed recommendations to departments some time ahead of scheduling summer courses. In particular, results from the "Student Interest Survey" would be relevant for analyzing the a-posteriori enrollment and financial data together with the a-priori student interest data. This would allow for the development of models using student interest (and other information) to predict enrollment and the resulting financial performance of summer classes. At this time, the committee has neither received the survey questions nor the data from the "Student Interest Survey". The committee recommends sharing this data. Should the available data not provide relevant data for analysis and planning purposes at this time, then the committee recommends a revision of the "Student Interest Survey", so that the resulting data can indeed be used for predictive models and planning purposes. In the following, the committee provides a first analysis of break-even points and profit margins of summer courses and their association with course characteristics. This first analysis is merely a selection of possible analyses with relevance for planning purposes. CPB and the Subcommittee on Development & Budget welcomes suggestions and further advice from OSS and the EVC regarding additional analyses that might be of relevance.

Total Enrollment, Costs, Revenues, and Profits 2017-2021

After joining the enrollment and financial data, 3223 individual summer courses from 2017 to 2021 were available for analysis. A total of 119,191 students were enrolled in these classes generating revenues in the amount of $115,288,564 (Estimated Gross Unit Fees) and total course costs of $26,618,990. During this time, the summer courses available for analysis led to profits in the amount of $88,669,573. Of the 3,223 courses offered, only 172 courses (5.3%) made no profits. However, OSS informed the committee that the campus returns a substantial amount of the tuition revenues to "student aid". The exact amount of "return to student aid" is difficult to determine, but OSS uses an estimate of 33% as "return to student aid". This means that after the adjustment, generated profits available to UCSB are reduced to $50,240,045 and the number of courses that made no profit increases to 349 (10.8%).

Overall Statistics Per Summer Course

On average, summer courses from 2017-2021 enrolled 37 students with an average maximum capacity of 49 students. At the same time, on average 13 students ended up on waitlists. After waitlists were resolved, summer classes filled on average to 76% of capacity. Average course costs were $8,259, revenues were $35,770, and profits were $27,511 per course. On average, the revenues of courses were 4.5 times higher than their costs and 63% of a course's revenues were profits. Considering return to student

aid, the average profit per class decreased to $15,587 and the profit to revenue ratio (profit margin) to 30%. The average break-even point per student was 8.8. This means that it took on average only 9 students enrolled in a summer course to reach profitability. Had all summer courses filled to their maximum capacity, then overall course profits would have increased 47%. These statistics suggest that a vast majority of summer courses filled well, and were highly profitable. The analyses also showed no evidence that smaller classes (below 10 students) are generally not profitable and thus should not be scheduled. The analyses support OSS' and the EVC's recommendation that all summer courses that break-even and are taught by an available instructor should be scheduled, even if projected enrollment numbers might be low (but not below a course's student break-even). At the same time, the analyses demonstrate that summer school has additional potential to increase profits by increasing enrollment. This said, "cannibalizing enrollment", which is primarily an issue in units with comparably low student demand (most units experience high student demand), should also be considered in course planning. As stated earlier, the sub-committee recommends a revision and optimization of the "Student Interest Survey", so that the resulting data can indeed be used for predictive models and planning purposes.

Profits by Year, Session, College, and Division

Profits gradually increased from 2017 ($14,120,534) to 2019 ($16,749,746), and peaked in 2020 ($23,473,753), which was during the peak time of the Covid-19 pandemic. In 2021 profits declined to $18,374,466, which was still higher than during the pre-pandemic years. Not surprisingly, most profits were generated in sessions A ($36,927,267) and B ($43,556,844), which offer required, large lower division courses. Across the other sessions (D-G), profits distributed approximately uniformly. Breaking down profits by colleges it becomes clear that summer enrollment is primarily driven by the College of Letters & Sciences. Of the $88,669,573 total profits, 93.5% ($82,906,041) was generated in L&S. Breaking profits further down into divisions shows that Social Sciences (SS) contributed $23,284,262 (26.2%), MLPS $31,994,717 (36.1%), and H&F $24,985,375 (28.18%). In contrast, only $2,280,607 (2.6%) of the profits were generated in the College of Engineering and $3,435,211 (3.9%) in the Gevirtz Graduate School of Education.

Profits by Departments and Units

The breakdown of profits by departments and units on campus largely mirrors the breakdown by college and division. As table 1 below reveals, online instruction contributed a large share of summer quarter profits (see the committee's recommendation regarding online and remote courses above). The "top 10 departments" are all within MLPS, SS, or HFA. The "bottom 10 departments/units'' are mostly within the College of Engineering. The Department of Chemical Engineering is the only department on campus that generated no profits (losses) for the campus. The reasons for this observation are comparably small summer classes combined with the highest instructor salaries on campus. It should be noted, however, that this department is an anomaly. All other departments generated substantial profits for the campus, and this mostly independent of instructor salaries (given the high revenues and profit to revenue ratios of most classes, instructor salaries are mostly a negligible driver of summer courses' profitability).

Table 1: Summer Quarter Profits by Departments

DEPARTMENT/PROGRAMS (RANKED FROM HIGH TO LOW PROFITS)	PROFITS
Online Instruction	$6,200,000
Department of Mathematics	$5,902,636
Department of Psychological and Brain Sciences	$5,004,695
Department of Physics	$4,507,579
Department of Economics	$4,250,526
Department of Communication	$4,153,399
Department of Sociology	$3,877,458
Department of Molecular, Cellular, and Developmental Biology	$3,624,856
Department of Statistics and Applied Probability	$3,311,364
Department of History	$2,818,153
Environmental Studies Program	$2,648,572
Writing Program	$2,592,671
Department of Chemistry and Biochemistry	$2,490,930
Department of English	$2,279,655
Department of Ecology, Evolution and Marine Biology	$2,088,955
Department of Classics	$2,001,556
Department of Anthropology	$1,983,310
Department of Film and Media Studies	$1,954,301
Department of Political Science	$1,711,965
Department of the History of Art and Architecture	$1,681,873
Department of Philosophy	$1,623,145
Department of East Asian Languages and Cultural Studies	$1,561,873
Department of Computer Science	$1,550,959
Department of Counseling, Clinical and School Psychology	$1,527,897
Department of Music	$1,382,370
Department of Asian American Studies	$1,239,165
Department of Chicano/a Studies	$1,105,086
Department of Global Studies	$1,088,710
Department of Religious Studies	$1,032,838
Teacher Education Program	$1,025,320
Comparative Literature Program	$1,023,353
Department of Black Studies	$885,516
Department of Art	$666,524
Department of French and Italian	$643,815
Department of Geography	$624,111
Department of Education	$617,580
Department of Spanish and Portuguese	$546,094
Research Mentorship Program	$537,554
Department of Linguistics	$501,636
Department of Earth Science	$454,078
Science & Engineering Research Academy	$444,373

Technology Management Program	$377,112
Department of Germanic and Slavic Studies	$326,413
Department of Feminist Studies	$285,247
Department of Theater and Dance	$255,889
English for Multilingual Students Program	$128,020
Latin American and Iberian Studies	$63,831
Bren School of Environmental Science & Management	$47,714
Department of Materials	$41,474
Department of Mechanical Engineering	$20,529
Department of Electrical and Computer Engineering	$11,640
Department of Chemical Engineering	-$9,624

Profits by Individual Courses

The 3,223 courses offered from 2017 to 2021 at UCSB originate from 857 different summer class titles. Of these 857 different classes, only 52 (6.1%) did not generate profits. Among this small group of courses are those that either can not be taught to a large group of students (e.g. dance and theater courses with individualized instruction) or only attract a very small, select group of students. In contrast, at the top of profitability are large courses that provide required courses within departments in which enrollment pressure is particularly high (e.g. MCDB 1A; Molecular, Cellular, & Developmental Biology, which alone generated $1,193,660 in profits for the campus from 2017 to 2021). It is important to note that profitability of courses must not be the only consideration in deciding which courses are offered and which are not. In fact, the overall high profitability of summer enrollment should allow departments to schedule classes that may not be profitable, but are deemed important to address relevant content in a curriculum, experiment with new content and teaching formats, require individualized modes of instruction (e.g. courses in arts, acting, and music), and address the teaching needs of smaller segments of the student body within a department. Ultimately, the overall profitability of departments should be considered. Departments with high profitability should receive relatively more degrees of freedom in scheduling courses - even special content courses with lower enrollment numbers - than departments with low profitability. A complete list of all classes sorted by profits, revenues, or costs can be provided upon request.

Conclusion

One of the main challenges for Summer Sessions is to address the lack of detailed information about how much revenue summer courses generate and how the profits generated by summer enrollment is used. The Subcommittee recommends increased transparency and clarity about the revenue stream provided by summer courses. Departments should be encouraged to rethink how they approach summer, and provide more opportunities for those faculty who want to teach in summer, regardless of which teaching modality they adopt (in-person, remote, online) and the seniority (i.e. salaries) of instructors. While remote teaching leads to the highest profits for summer courses, and students' demand for remote courses during the summer term seems to be increasing, more data and analyses are needed across disciplines before shifting more courses from in-person to remote teaching. Summer course profitability should be

evaluated in the context of teaching quality and outcomes. The subcommittee believes that it is too early to conclude that remote teaching is appropriate for all courses; more financial resources should be directed towards faculty and departments interested in developing new courses for summer since the demand for them will likely increase.