THE SUMMER SESSIONS REGULARIZATION PLAN: A REVIEW & REVISION

A report to the EVCP

by the

Task Force for Summer Sessions Regularization II



Members of the Task Force

Associate Vice Chancellor Susanna Castillo-Robson, Admissions & Enrollment

Assistant Vice Chancellor Teresa Costantinidis, Budget

Professor Mary Firestone, Academic Senate Representative (September 2007-December 2007)

Assistant Vice Chancellor Dennis Hengstler, Office of Planning and Analysis

Professor Bob Jacobsen, Physics

Vice Provost Catherine Koshland, Academic Planning & Facilities

Associate Dean Ananya Roy, International & Area Studies

Director Richard Russo, Summer Sessions

Director Erika Walker, Haas School of Business

Budget Coordinator Karen Warrick, Budget and Resource Planning

Academic Senate Vice Chair Sheldon Zedeck (February 2007-September 2007)

Acknowledgments

The task force wishes to thank Sarah Nathe, Program Manager in the office of the Vice Provost-Academic Planning & Facilities, who staffed the committee. Patti Owen, Director of Academic Personnel, assisted in interpreting academic personnel policies. Cheryl Resh, Director of Financial Aid, updated the information on financial aid. In the Graduate Division, the plan was reviewed and revised by Diane Hill, Director of Academic Affairs, and Judy Sui, Financial and Data Information Manager. Valuable suggestions were offered by Acting Registrar Walter Wong and Principal Policy Analyst Jocelyn Surla Banaria, in the office of the Associate Vice Chancellor for Admissions and Enrollment. We thank the Academic Senate members who have contributed to this plan.

Contents

	page
The C	hargeiv
One:	Progress on Regularization1
Two:	Instructional Issues4
Three	: Tuition and Fees 9
Four:	Student Issues
Five:	Management Issues
Six:	Departmental Funding
Seve	n: Steps to Implementation
	Tables
1	Summer Salary Rates 5
2	Recommended Fees for Students11
3	Fee Assessments (Summer 2007)12
4	Course Cancellation Minimums
5	Revenue Share Minimums

The Charge

The charge to the Task Force for Summer Sessions Regularization II, chaired by Vice Provost Koshland, was to revisit the regularization plan under which UCB has been operating since May, 2004, and to modify it in light of campus experience and changes in summer programs across the UC system.

Specifically, the task force was asked to

- 1) Reevaluate the Summer Sessions business plan, particularly the formula for departmental resource allocations.
- 2) Review and modify faculty incentives and compensation, for both overload and "regularized" teaching.
- 3) Determine appropriate compensation for online course development and travel study programs.
- 4) Recommend revisions to governance issues, including course evaluations and advancement, and faculty obligations for residence, committee work, and other service.

One Progress on Regularization

Summer Sessions at Berkeley

UC Berkeley Summer Sessions is fundamentally different from fall and spring semesters, primarily because of the shortened time span for the term and resultant intensity of instruction. UC Berkeley students enroll in Summer Sessions classes to make up course deficiencies, qualify for acceptance into their chosen major, or to make progress toward their degree. They are joined by visiting students from other UC campuses, from other colleges and universities in California and the rest of the U.S., and from around the world. Qualified high school students may enroll in Summer Sessions after their sophomore and junior years to get a feel for higher education.

Departments from across the campus offer Summer Sessions courses that are popular and can be expected to have large enrollments. Most are lower-division courses, but there are numerous upper-division and a few graduate courses. Depending largely on their level, classes have been taught by lecturers as well as a modest number of ladder-rank faculty. Fully enrolled courses serve the campus by making efficient use of available space, by enabling students to make timely progress toward their degrees, and by subsidizing participating departments which receive a share of revenue from each course offered if the income exceeds the costs. Courses with large enrollments and many units are very cost-effective.

The revenue share helps departments offset the costs of teaching Summer Sessions and provides them with an important source of discretionary funds. Campus service departments such as student health, libraries, recreation facilities, and custodial services also receive funds for the extra workload incurred by serving Summer Sessions students. The visitor population supplies the revenue that is shared by paying somewhat higher unit fees and a one-time enrollment fee; students from outside the U.S. also pay an international enrollment fee to cover the costs of doing business overseas.

Rationale for Regularization

The regularization of Summer Sessions is part of the University of California's strategy to accommodate the projected statewide enrollment growth of 60,000 students through the academic year 2010-11. Regularization refers to regular funding to campuses to allow them to generate more UC student FTE during the summer months. Regularization has nothing to do with modifying the academic calendar.

Transition to regularization formally began with Summer Sessions 2001¹ and the first UC Berkeley regularization plan was written in 2004. This current plan leaves much of the 2004 plan intact, but recommends changes in critical areas that position UC Berkeley to serve both UC students and those from other institutions.

¹ Full regularization is required when all ten UC campuses have received state funding for Summer Sessions. Any changes in the state's plan to fund Summer Sessions will affect implementation of the program described here.

Regularization has a number of attractions, first among them the additional summer courses that accommodate more students without increasing the fall and spring enrollments. In 2004, it was optimistically projected that UCB Summer Sessions enrollment could be doubled from its 2000-01 level of 1,389 student FTE. The Summer 07 enrollment of 2,127 student FTE suggests that 2300-2500 student FTE is the most that can be reasonably expected, but that is a notable increase. Further, there is evidence that students progress more rapidly toward their degrees by taking classes in summer; that allows more students to be served by the campus in a given time period. Summer Sessions may also contribute to lessening impaction in a number of majors which, in turn, decreases time-to-degree for some undergraduates.

UC students may apply for enrollment in Summer Sessions classes two weeks before non-UC students. This assures UC students classes of their choice, and gives priority to those who need to enroll in courses restricted to majors. Open enrollment for non-UC students has been continued because of the diversity and revenue they bring. Even with the early enrollment for UC students, non-UC students are able to enroll in time to make summer plans.

Obstacles to Regularization

Converting Summer Sessions to state-supported "regular" instruction is essentially a move toward year-round instruction. However, unlike its sister campuses in the University of California system, the Berkeley campus operates under the semester system so Summer Sessions courses remain different in intensity and duration from those in the fall and spring semesters.

Beyond the obvious and insurmountable issue of term duration, there are also substantial problems related to faculty compensation and governance, lecturer compensation, and GSI provisions. Furthermore, before regularization, Summer Sessions was a self-supporting enterprise with the ability to set fees at levels different from fall and spring and to share the revenue from its operations with participating departments. To maintain departmental participation, some capacity for sharing revenue must be preserved. Now that fee levels for UC students must be comparable to those in the fall and spring and cannot be established independently, preservation of revenue-sharing must be accomplished through new financial arrangements. Three years of using the 2004 "formula" have demonstrated the need for changes.

The 2004 plan anticipated regularization's impacts on various populations: 1) students in terms of academic policies and requirements, fee structures, and the availability of financial aid; 2) academic departments in terms of advising and office space; and 3) administrative departments such as those involved in enrollment and scheduling, monitoring of eligibility for graduate student appointments, health care, housing, and libraries. These impacts have been dealt with satisfactorily in most cases, but there are some remaining problems that are addressed in this revised plan.

The 2007 Task Force subscribes to all the goals adopted by the 2004 Task Force for fully regularized Summer Sessions:

- The quality of instruction in Summer Sessions will be the same as that in fall and spring.
- Summer Sessions will remain a voluntary program available to Berkeley students.
- Summer Sessions should decrease time-to-degree.

- Open enrollment for non-UC students will be continued, with the aim of maintaining the expanded Summer Sessions community.
- Incentives to academic units to participate in Summer Sessions will be preserved

In 2004, the Task Force raised a number of significant issues that required resolution before UC Berkeley could move toward full regularization, while still meeting its goals. Most remain:

- Faculty Participation: To ensure the high quality of instruction in summer, it is desirable to have ladder rank faculty involvement in instruction comparable to that for similar courses in the fall and spring semesters. **That has not happened** for at least two reasons: 1) it has been cost-prohibitive to offer ladder rank faculty a direct monetary bonus for overload teaching because of the terms of the contract with the lecturers' union (which is in place through 2011); and 2) summer teaching is optional and many faculty members want to use the summer for their research, not for teaching.
- Faculty Compensation: To encourage ladder faculty participation in Summer Session, policies in the *Academic Personnel Manual* regarding faculty compensation and time off must be changed, specifically, the policy regarding eligible time periods for outside income. Such changes require action by the systemwide Senate, and **that has not happened**.
- The Calendar: The proposed change to 140 instructional-day academic calendar to allow for a more regular Summer Sessions schedule was not approved. Until it is, students finishing or starting regular semesters elsewhere will find it difficult or impossible to attend Summer Sessions or the Berkeley Study Abroad Program. Modest modifications to the calendar for 07-08 allowed for beginning the 8-week summer session as close to July 1 as possible, thus improving access to gateway courses for incoming community college students and freshmen at high schools with terms ending in mid-June.
- Summer Enrollment Prior to Matriculation: New students are allowed to register for classes the summer prior to their matriculation; however, because the summer term begins before, or very soon after high school graduation, most new students do not take courses in the summer before their first fall term. This year, however, Summer Sessions launched two new programs to attract newly admitted freshmen and transfer students; in summer 2007, 250 students began their studies early and started generating FTE for the campus.
- Non-Resident Tuition: Non-resident students do not pay non-resident tuition in the summer, but the UC Office of the President (UCOP) continues to indicate that they will with fully regularized Summer Sessions. The Task Force recommends that UCOP drop this plan because charging non-resident tuition may dissuade non-resident UCB students from attending Summer Sessions, and slow down their progress to degree. Furthermore, it would have the unintended consequence of creating a price barrier for all visiting students and result in millions of dollars in lost revenue used to fund academic department revenue share.
- Financial Aid: Current federal, state, and private endowment financial aid programs are geared to fall and spring semesters, and most treat summer as a "trailer" to the academic year, rather than as a "header" (as it is for UCOP budgeting purposes). Some programs can not be modified; others may be able to make funds available for summer, but this would decrease funds available for fall and spring. The campus has been seeking scholarship funds to ensure consistent financial aid packages year-round.

These issues are examined in greater detail in subsequent sections of the report.

Two Instructional Issues

To transition UC Berkeley's current Summer Sessions into a state-funded academic program, the campus developed a plan that addresses complicated instructional issues including faculty compensation and related governance matters. Because the Task Force goal is to ensure that the quality of summer courses is as high as that in fall and spring, the following general principles govern Summer Session teaching:

- Departments will work toward the same percentage of ladder rank faculty teaching similar courses in summer as in the fall and spring semesters. However, the shorter duration and increased intensity of the course offerings in Summer Sessions may make a different presentation and pedagogy more appropriate. In cases where modification of existing courses is proposed, approval of the Academic Senate--which has jurisdiction over these matters--must be obtained.
- All instructional staff appointments are in the hands of academic departments.
- Course evaluations must be performed for all courses taught by ladder rank faculty and lecturers, whether they are taught as an overload or part of regularized teaching load. These evaluations will have the same rigor and weight in the faculty review process as those in fall and spring. The evaluation forms used by departments must include check boxes that make it possible to distinguish among UCB students, other UC students, and visitors.

Faculty

The plan outlined below gives faculty members teaching in Summer Session a choice of overload teaching or regularized teaching with course relief². Also proposed are solutions to governance issues associated with each choice. The two options may not be equally practical across departments; in general, the size of a department will dictate the feasibility of each option. Department chairs must weigh the benefits to the department in considering a faculty member's request to participate in Summer Sessions under either of the options presented below.

In the past three years, neither option has attracted the level of ladder rank faculty (LRF) involvement desired. There appear to be two main reasons. First, data from 2001 to the present indicate that LRF participation is highly correlated with a direct monetary bonus: in 2002, the first year of the faculty bonus, 87 LRF taught in the summer, and that number increased to 92 and 97 in 03 and 04, respectively. In 2004, it became impossible to offer ladder rank faculty a direct monetary bonus for overload teaching because of the terms of the contract with the lecturers' union (Unit 18); correspondingly, in 2005 the number dropped to 82, in 2006 it was 78, and in 2007, it was 43.

Second, summer teaching is voluntary and apparently LRF want to use the summer for their research: regardless of options and compensation, the great majority are not interested in summer

² The sequence for the academic year is summer, fall, spring.

teaching. Most Berkeley faculty teach in both fall and spring semesters, unlike their quartersystem counterparts who often teach in only two of the three academic year quarters.

Option 1: Overload Teaching

Faculty are paid a stipend of 1/9 of their academic year salary as of June 30th for each eligible 3 to 5-unit course they teach. For courses of other unit size, the summer salary is adjusted up or down, as appropriate (see Table 1 below).

Table 1 Sum	mer Salary	Policy
Course Units	Salary %	
1	4.00%	
2	8.50%	
3 to 5	11.00%	
6 to 10	22.00%	

The departments of regular ladder rank faculty who teach at least one eligible course³ as an overload in the Summer Sessions receive discretionary research support in the amount of \$4500. The department is urged to apportion most of this money to the faculty member for use on graduate student support, attendance at conferences, or other research-related costs.

- The department chair must approve the faculty member's participation in Summer Sessions overload teaching.
- Junior faculty should not be approved to teach on an overload basis *more than once* before they are tenured.
- Participating faculty members are allowed to earn up to a total of 3/9 of their normal nine-month academic salary from the overload stipend and other sources for the summer in question.
- The obligation to teach in the fall and spring is not relieved by overload teaching.
- Participants earn no relief from governance responsibilities (committee service, advising, graduate student supervision, etc.).
- No change in benefits results from overload teaching; in particular, no extra retirement service credits or sabbatical credits will accrue from overload teaching.
- Revenue-sharing arrangements with departments are maintained. For the purposes of computing the share, instructional costs for courses taught by ladder rank faculty will be assessed as the cost of a lecturer.
- The workload in Student Credit Hours (SCH) accrued through overload teaching will be included as part of the annual workload of the faculty teaching the class.

³ Eligible courses are existing or proposed courses approved by the Academic Senate Committee on Courses of Instruction that have at least three units, involve at least six weeks of instruction, and meet the Berkeley standards for minimum enrollment.

Option 2: Regularized Teaching

Each year, faculty members negotiate their teaching load with their department chair. The teaching of Summer Sessions courses is included as part of the annual workload of the department of the faculty members teaching the classes.

- The department chair must approve a faculty member's participation in Summer Sessions teaching. At the same time, the department chair should not require that a faculty member teach in three conterminous sessions since this may interfere with his or her research.
- When faculty members propose to teach in Summer Sessions as part of their regular teaching responsibilities, they should be required to provide a statement to their department chair detailing how they intend to meet their service requirements.
- The participating faculty member's normal nine-month academic salary will not change.
- During the period in which the participating faculty member is not teaching⁴, he or she may earn up to 3/9 of his or her normal nine-month academic salary from outside sources. Thus, it remains necessary to alter Section IV, Subsection 660, of the *Academic Personnel Manual* to allow a period of eligibility comprising three contiguous months, other than summer, during the academic year.
- During the three months the faculty member is not teaching, his or her responsibilities are no different from the summer responsibilities of a faculty member who has taught in the fall and spring. In particular, residence requirements and governance responsibilities are the same: faculty members can not reduce by more than three months their service obligations to their department and the campus. Teaching during the summer does not bring service relief for a full semester during the academic year; it earns three contiguous months of relief, before and after which the faculty member must be available for service.
- No change in benefits results since faculty members are teaching a regular load in a regularized schedule. Specifically, sabbatical accrual or retirement credit for the year is the same as for teaching courses in the fall and spring only.
- For faculty with Fiscal Year Appointments, regularization results in no changes to the current procedure for negotiating course load and schedule.
- Faculty costs are taken into consideration within the financial support formula for departmental reimbursement.
- The SCH workload accrued by regularized summer teaching should be included in the annual workload for the department, and will be used to determine its workload statistics. For instance, this workload should be incorporated in the FTE student/FTE faculty ratio. However, the CSIR system needs to be changed in order to capture the number of faculty involved in regularized summer teaching.

⁴ The faculty member must specify in writing which three months are involved and the department chair must concur.

Lecturers and GSIs

Lecturers and Graduate Student Instructors will continue to be utilized as they have been in Summer Sessions, with the addition of new procedures agreed upon in recent labor negotiations.

Lecturers

Under the Memorandum of Understanding with UC-AFT, non-senate faculty (NSFs) can expect the following from the Summer Sessions Program:

- When a NSF is offered an appointment in the Summer Session, he or she will be informed in writing of the following: title of the position, salary amount, name of employing department, period of appointment, course(s) assigned, other duties assigned, name of department chair, whether the appointment is a contingency and the criteria.
- All summer appointment decisions will be made at the sole discretion of the university.
- Appointment offers may be made on a contingency basis depending on class enrollments.
- By October 1 of each year, the university will provide the UC-AFT with operating budgets for the immediately preceding summer session.
- Normal compensation will be based on the annual salary of the NSF in effect as of June 30 of the calendar year in which the summer session begins.
- The University will pay the NSF the same percentage of salary provided to ladder rank faculty at the same campus, generally, for the assigned Summer Sessions course responsibilities.
- Total monthly compensation for a NSF with an 11-month appointment may not exceed 100% of the monthly salary rate.
- In the event that the University incorporates Summer Sessions into the academic year, the University is obligated to meet and confer with the UC-AFT regarding the applicability of employment terms for Summer Sessions lecturers.

GSIs

Under the UAW contract of October 1, 2007, academic student employees (ASEs) can expect the following from the Summer Sessions Program:

- Summer Sessions is obliged to provide a written notice of appointment with contractspecified information.
- Minimum standards for GSI, Reader and Tutor wages have been established. GSIs are now paid an hourly rate based on their appointed hours. The hourly rate is negotiated in advance with the UAW. Compensation in 2008 for GSIs who taught the same course in 2007 will be based on the 2007 compensation level as range-adjusted in October, 2007.
- AI-GSIs I-III who have been approved by the Committee on Courses of Instruction as
 Instructors of Record for an upper division course will be compensated based on previous
 practice with Summer Sessions.
- GSIs in Summer Sessions may not be assigned to work more than eight hours a day or 40 hours a week; this necessitates careful consideration of assignments in short-term intensive courses and courses that involve field trips.

- Summer Sessions is obligated to place an ASE in an equivalently compensated position, or provide equivalent compensation if no position is available if the university fails to notify an ASE before the third meeting of the assigned section or class that the offered position is no longer available.
- Summer Sessions positions must be posted by the university no later than February 1st of each year according to contract-specific guidelines.
- ASEs are not required to register for Summer Sessions when they are teaching in Summer Sessions.
- ASEs not registered for Summer Sessions do not receive health care coverage from August 1st to the beginning of the fall semester unless they elect to pay as individuals.

Three Tuition & Fees

The assessment of appropriate fees remains an important element in summer sessions regularization. It also is an important component of the business plan for making the campus financially capable of meeting the costs of a robust summer term. While regularly matriculated students are supported by the state through the marginal cost of instruction, visitors are not. The Task Force recognizes that fees are charged depending on whether a student's enrollment generates state support for the marginal cost of instruction. The Task Force recommends that non-UC students be charged certain fees to cover the costs of teaching them. Two tables below indicate whether a fee is or is not charged to a student (Table 1) and, if so, the size of the fee (Table 2).

Fee Setting

The lateness with which the Regents can set fees for summer works against larger enrollments since summer is when students first encounter the next year's fee increase. For the purposes of fee-setting, it would be preferable if summer were treated as a trailer.

Non-Resident Tuition

The campus continues not to charge non-resident tuition to any Summer Sessions students. The logic of regularization suggests that non-resident tuition be imposed on UCB students and students attending from other UC campuses who have been identified as non-residents by their home institutions, but the UC Office of the President understands that to do so would have a serious impact on summer enrollment: non-residents who previously attended Summer Sessions may not because of the added expense. Therefore, UCOP has allowed campuses to follow the current practice for the foreseeable future, and the Task Force recommends that this allowance continue.

Unit (Educational/Registration) Fees

Consistent with state support for regularly matriculated students, the Educational and University Registration Fees are charged to all UC students on a per-unit basis during the summer. This accords with UC policy.

Professional Degree Fees

The campus does not assess the PDF fee to UC students enrolled in Summer Sessions, providing they paid the fees the previous fall and spring.

Self-Supporting Program Fees

The Haas School of Business offers a number of self-supporting/high fee programs to students (EMBA, MFE, and Haas/Columbia Executive MBA Program). Students wishing to apply units earned during Summer Sessions to these programs have to pay these additional fees. Professional school self-support includes an enrollment fee (for visitors) or mandatory campusbased fees (for UC students), unit fees, and program fees.

Mandatory Campus-Based Fees

UC students are assessed campus-based fees in accordance with the student referenda that first established each fee, with one exception related to online courses (see below).

Visitor Enrollment Fee

Enrollment fees for visitors include the costs of enrollment, health services, mandatory campus-based fees, Class Pass, and other benefits, as appropriate. In 2007, visitors were assessed \$380.

Health Insurance Fees

Summer Sessions advises students that they should have insurance, but it does not require proof of insurance for registration and it does not police.

Online Courses

In 2007, the UC Office of the President authorized a pilot for online courses. Specifically, the Berkeley campus would be allowed in summer 2007 to charge only those campus-based fees from which a student enrolled solely in online courses could benefit. Those fees are \$6 for UC students and \$100 for visiting students.

Travel Study Fees

Given the additional costs associated with study through the Study Abroad Program, the campus has authorized the imposition of an additional program fee to cover direct costs and overhead based on each program's expenses.

Internship Program Fee

Summer Sessions has established an unpaid academic internship program. The fee assessed for the additional services provided in the program is \$1,495.

Table 2 reflects the task force's recommendations regarding which fees should continue to be charged to particular types of Summer Sessions students. Table 3 indicates the amounts.

Table 2
Recommended Fees for Students

Fee Type	UCB Students	Other UC Students	Self-Supp. Programs [*]	Visitors
	<u> </u>	1		
Non-Resident Tuition	TBD ⁺	TBD +	No	no
Unit Fees (ed/reg fees)	yes	yes	No	yes
Mandatory Campus-Based Fees *	yes	yes	No	no
Course Materials Fees	yes	yes	Yes	yes
Professional Degree Fee	no	no	No	no
Professional School Self-Support Fee §	no	no	Yes	no
International Student Fee	no	no	No	yes
Travel Study Program Fee	yes	yes	Yes	yes
Internship Program Fee	yes	yes	Yes	yes
Visitor Enrollment Fee	no	no	No	yes
Class Pass	yes	yes	No	no

^{*} Self-supporting programs: EMBA/MFE/Haas-Columbia Programs

⁺ Actual assessment to be determined at a future date by UCOP

[#] Include those for ASUC, Student Services, reserve for renewal/replacement, campus health care, life safety, Recreational Sports, and the Green Initiative. If the 2007 online course pilot proves successful, those students may be assessed a reduced campus-based fee

[§] Includes enrollment fee (visitors) or mandatory campus-based fees (UC students), unit fees, and program fees

Table 3
Fee Assessments
(as of Summer 2007)*

Current Fee

Visitors Self-Supp. Programs Other UC Students **UCB Students**

Non-resident Tuition (UG and Grad)	TBD**	TBD**	0\$	\$0
 Unit Fees (Ed/Reg)	\$221/unit (UG classes) \$310/unit (G classes)	\$221/unit (UG classes) \$310/unit (G classes)	0\$	\$250/unit (UG classes) \$250/unit (G classes)
Mandatory Campus-based Fees	\$102	\$102	Included in self-supporting fee	Included in enrollment fee
Course Materials Fees	\$15-\$165 / course	\$15-\$165 / course	\$15-\$165 / course	\$15-\$165 / course
Professional Degree Fee	Set by each school with regental approval	Set by each school with regental approval	Set by each school with regental approval	Set by each school with regental approval
Professional School Self- Supporting Fee	Set by each school	Set by each school	Set by each school	Set by each school
International Student Fee	•	ı	1	\$300
Summer Lab Fee	depends on course	depends on course	depends on course	depends on course
Travel Study Program Fee	depends on program	depends on program	depends on program	depends on program
Internship Program Fee	\$1,495	\$1,495	n/a	\$1,495
Visitor Enrollment Fee	0\$	0\$	0\$	\$380
Class Pass	\$29.95	\$29.95	Included in self-supporting fee	Included in enrollment fee

^{*} Fee structure varies from year to year, reflecting current fall/spring fee schedules

12

^{**} To be determined

^{***} Subject to change corresponding to any change in fall/spring unit fees

Four Student Issues

Undergraduates

1. Summer Admissions

The Task Force continues to believe that the Berkeley campus should not create a summer admission cycle. Currently, students apply to Berkeley for admission only for the fall term. The AEPE policy does allow freshmen and transfer students admitted for fall to take courses in the summer through the Freshman Summer Session and the Transfer Summer Session. In the summer of 2007, 250 students did so.

2. Time to Degree

As long as student participation in Summer Sessions remains voluntary, it is difficult to establish that it does shorten a student's time to degree. Nonetheless, Association of University Summer Sessions data indicate that participation in summer session programs has a positive impact on time-to-degree. UC Berkeley time to degree has dropped since state-supported Summer Sessions began in 2001, from 8.27 semesters then to 8.09 in 2006-07. This is attributable in part to increased summer attendance—about 50% of all Berkeley undergraduates are taking summer courses—but fee increases in fall and spring have also spurred students to complete their degrees sooner by taking summer classes.

3. Enrollment, Grades and Transcripts

All students will enroll and receive grades, transcripts and related student services through the campus Office of the Registrar, as in the past. Since the Summer Sessions office moved off-campus to 1995 University Avenue, the Registrar's Office anticipates greater student traffic and the need for increased service in Sproul Hall. Summer Sessions is working with the Registrar to review customer service options and opportunities.

4. Other Academic Regulations

Probation/Dismissal: UC students on probation are treated as regular UC students and registered and charged accordingly. Since the decision on dismissal of students for their performance during spring semester is generally not known before July 1, students dismissed in spring are charged the UC fee for the immediately subsequent Summer Sessions.

Financial Aid: On the Berkeley campus, Summer Sessions is treated as a trailer for consideration of need-based financial aid. This means that students can be awarded federal and state aid based on remaining annual eligibility from the academic year, with summer as the "trailing" term. When summer is treated as a trailer, the campus knows what federal, state, and institutional funds remain for the student, as well as the fund source. Most universities treat summer as a trailer because it is very complex to calculate how much aid will be available for aid in the summer when it is treated as a header. Three critical problems arise when financial aid is treated as a header:

- Any changes to the summer package for a student would require changing the academic year need-based package as well.
- It is more difficult to know what resources are truly available to award in the fall and spring since students may decide to attend Summer Sessions well after the next academic year packages have become available.
- Experience has shown that there are many changes to summer aid because of revisions to student course schedules, and revisions are likely all summer.

Need-based financial aid at Berkeley has always and should always be treated as a trailer. There is really no problem for the campus although, administratively, summer will look like a header in the academic year calendar and in the annual allocations of the campus and financial aid budgets from UCOP.

A student's Summer Sessions financial aid comes from federal and state aid remaining after the fall and spring, as well as from institutional funds, in the form of grants funded from summer fees income. Typically, 33% of the summer fees paid by UC students are returned to aid (RTA) as grants to the Financial Aid Office. This is similar to the University Student Aid Program (USAP) that derives from educational fees collected and then redistributed to the campuses by the UC Office of the President during the academic year. For summer, however, the fee income stays on each campus and the 33% from UC students is allocated to the Financial Aid Office for RTA.

The amount of grant/scholarship aid needed to provide equivalent packages in Summer Sessions is substantially more than that available through the RTA from summer fees. There are five major reasons for this shortfall of grant aid:

- The summer budgets are high because they include a living expense component of approximately \$1,300 a month regardless of the number of units enrolled.
- There is no Parent Contribution (PC) for the summer since it is fully accounted for in the academic year. In the academic year, need is determined by subtracting PC from the budget; with no summer PC, each student will have an unusually high need for financial aid in the summer.
- Pell Grant awards are not available for most students in the summer since they are awarded the annual maximum during the academic year.
- Cal Grant awards are not available for most students in the summer since they are awarded the annual maximum during the academic year. (A summer Cal Grant award would reduce the terms of eligibility overall so the student would not have a Cal Grant for his or her senior year.
- Beyond those funded by the return of summer aid, institutional grants/scholarships are not available because they have been fully utilized in the academic year.

Currently, federal and state financial programs, which together provide about two-thirds of financial aid to Berkeley students each year, are awarded equally for the fall and spring terms. Splitting the current annual maximums for these awards among three terms instead of two would dilute the awards for all recipients each term. Currently, only students enrolled at Berkeley for either the fall or spring term and then the summer term have sufficient aid in the summer to cover

their costs because they have not used their annual maximum in the academic year. Given this, students admitted for the spring semester should be encouraged to attend Summer Sessions since they have sufficient summer funding to cover the summer costs.

It should be noted that the Return to Aid (RTA) from the Berkeley Summer Sessions is insufficient to fully fund the UC fee grants awarded to financially needy students. The Financial Aid Office has remained committed to providing full fee grants to any student who was grant-eligible during the academic year, and has subsidized the summer grant program with academic year USAP for the past few years. For summer 2007, a total of \$2.6 million of academic year USAP was used to help fully cover Summer Fee Grants for over 3,300 needy students. This practice will need to continue until or unless other grant funding becomes available to ensure that financially needy students can afford to attend Summer Sessions.

The Office of the President is working closely with the federal government to extend additional Pell Grant eligibility for students who attend school year-round. There is positive movement in this area as year-round Pell is currently in draft legislation and asked for by President Bush, but there are no guarantees at this time. This would make a real difference for the 7,300 Pell-eligible students on the Berkeley campus. These new federal funds would help cover their summer living expenses and may require less academic year USAP to be committed to summer grant aid.

UCOP is also working with the California Student Aid Commission to allow additional eligibility for Cal Grants. Currently, Berkeley is awarding a small number of Cal Grants to seniors who will graduate next year with remaining eligibility. There is a great need for endowed fellowships and scholarships for the academic year. Without similarly robust financial aid, many regular students will be unable to attend Summer Sessions.

In fall 2006, financial aid offices nationally were instructed by the Department of Education to normalize the definition of full-time enrollment for all terms offered, including summer. UC Berkeley's summer aid was originally based on a prorated number of units based on the weeks in each session and students could take fewer units to be considered full time than in the fall and spring terms; for example, 6 units was full-time for the eight-week summer session. Berkeley changed its policy to reflect the Department of Education's requirements beginning in fall 2006 with the new minimum requirement of 12 units as full-time and 6 units as half-time. This meant that beginning in summer 2007, students needing aid had to be enrolled in at least 6 units to receive financial aid. This change in half-time eligibility directly contributed to an increase in FTE. In summer 2006, students with UC Fee grants completed 2,000 more semester units than they had in the previous year.

Each UC student's home campus is responsible for financial aid for its students regardless of which UC campus they attend. Efficient administrative structures have been put in place at UCOP to help the campuses manage this. A web site has been developed to provide summer student budgets at each campus and summer enrollments are kept in a central UCOP data base that can then be accessed by each campus for validation purposes before disbursing aid to their students attending other UC campuses.

Other academic policy modifications may be called for, following consultation with the Academic Senate.

Graduate Students

There are similar areas of concern with graduate students; for example, summer admissions, normative time, and GSI eligibility.

1. Summer Admissions

As with undergraduate students, there is no summer admissions cycle for graduate students. However, graduate students admitted for fall are allowed to attend Summer Sessions.

2. Normative Time

At this time, only fall and spring count toward graduate students' normative time. In most departments, students have 12 terms from start to finish. The state funds only six semesters of enrolled study in the fall/spring semesters for students at the advanced-to-candidacy stage. Currently, dissertation units taken in summer are not funded by the state. The Task Force recommends that UCOP *not* count summer terms in calculating the maximum six semesters for state support.

3. Enrollment, Grades and Transcripts

All students enroll, receive grades, and obtain transcripts and other related student services through the campus Office of the Registrar.

4. Other Academic Regulations

Probation and Dismissal: UC graduate students on probation are subject to regular registration and fee requirements. Since the decision on dismissal of students for their performance during spring semester is generally not known before July 1, students dismissed in spring are charged the UC fee for the immediately subsequent Summer Sessions.

Academic Residency Requirement: Doctoral students must meet a two-year residency requirement. As stated in Academic Senate Regulation 690:

A. For a candidate for the Doctor's degree, residence during Summer Sessions may be counted only under the following conditions: (1) enrollment in two consecutive six-week Summer Sessions counts as one term of residence provided the candidate is enrolled in each session for the equivalent of at least two units of upper division and/or graduate work as given in a regular term; or (2) enrollment in an eight-week Summer Session counts as one term of residence provided the candidate is enrolled for the equivalent of at least four units of upper division and/or graduate work as given in a regular term. B. For a candidate for a Master's degree, Summer Sessions count for residence as in (A) above, except that the two six-week Summer Sessions need not be consecutive. (Am 24 May 68).

5. GSI Eligibility

GSIs have eight semesters of eligibility. The Task Force continues to recommend that teaching a Summer Sessions course not be treated the same as teaching a fall or spring semester course, and not count against eligibility. All GSI recommendations are subject to contract negotiations,

Graduate Council approval, and guidance from the Office of the President since these issues have system-wide impact.

6. GSI fees

The Graduate Division recommends that GSIs not be required to register for Summer Sessions when they are teaching in Summer Sessions. However, unless they are registered and carrying a half-time course load, they must pay their own DCP.

7. Financial Aid

Graduate students are required to register in summer in order to receive financial aid or fellowship support in summer. Financial aid at Berkeley is generally treated as a trailer, although the Graduate Division treats some graduate fellowships as headers.

Five Management Issues

Course Approvals

The course approval process has remained unchanged for regularized Summer Sessions, in keeping with the goal of consistent instruction quality across terms.

Departments can propose the length and number of summer courses. All Summer Sessions courses must be approved by the appropriate Academic Senate committees before being offered. In late August, the Director of Summer Sessions advises the departments on the types of courses that appear desirable for the subsequent summer, and assists departments in estimating the potential demand for classes and making informed decisions on which classes to mount. The departments reach agreement with the Director by October 1.

For classes that require central campus classroom space, the Director of Summer Sessions selects the mix of courses, and the Registrar schedules them and coordinates issues of space and articulation with other summer activities. Summer Sessions has first priority in assigning classrooms in the general assignment inventory. Should scheduling challenges arise, they are referred to the chair of the Campus Committee on Classroom Policy and Management (CCCPM) for final adjudication.

Reporting

The main purpose of regularizing Summer Sessions is to increase the student credit hours (SCH) taken by UCB students in summer and to decrease time to degree. The spring 2007 population of UCB undergraduates was 23,351. If 80% of the spring undergraduate population took summer courses, each student would need to take 4.9 units to achieve a goal of 3000 FTE enrollments in the summer. Since the most recent actual attendance was 42% of the undergraduates, and the average units taken were 5.9, it is most realistic to plan for 2300-2500 FTE.

In general, there are no minimum course loads for Summer Sessions: under-enrollment is evaluated in fall and spring only. However, low-enrollment summer classes are likely to be cancelled by the department or Summer Sessions to avoid financial losses. Certain minimum enrollment thresholds are being put in place to govern both course cancellation and eligibility for department support funds from Summer Sessions.

Campus Services

Many campus departments that provide services to students in the summer—University Health Services, Office of the Registrar, Office of Financial Aid, Student Learning Center, Dean of Students, etc.—receive funding from Summer Sessions to offset their additional costs.

Calendar

The proposed change to 140-day fall and spring semesters would make Summer Sessions more convenient for students from other institutions. A small change was made for 2005-08 that starts

the 8-week session as close to July 1 as possible, thereby allowing better alignment with high school and community college schedules. However, until summer terms can be made even longer, it will be very challenging to grow beyond 2300-2500 FTE.

Instructional Space Matters

Classroom space during Summer Sessions is at a premium, indeed more so than in the fall or spring. Due to the short duration of Summer Sessions, the classes require about twice as many contact hours per week as the classes do in the fall or spring. In addition, classrooms are used for many other important purposes during the summer, including new student orientation and summer outreach programs for K-12 students. Finally, summer is also used to repair and refurbish classrooms.

The campus has closely monitored the utilization of general assignment space in the summer since 2004. Given the multitude of summer activities over and above the courses offered through Summer Sessions, it is the Task Force's assessment that space is well-utilized in the summer, particularly when the 10, 8, and 6-week sessions are underway simultaneously. UCOP's expectation that UCB meet 40% of its annual utilization in summer is unrealistic for the following reason: the UCB summer is 10 weeks long, whereas our semesters are 15 weeks long; thus, in summer we can be properly expected to meet 25% of our annual utilization. The Task Force recommends that space utilization requirements for summer be revisited with UCOP.

Systems

The current Student Information System (SIS) is a legacy mainframe database of hundreds of programs. The database needs to be rewritten and reconfigured to accommodate data on UCB students attending Summer Session as a recognized term of study. The campus has committed to the Kuali student project and has joined the consortium to create the next generation of student systems. Using service-oriented architecture, the student-centric needs of Summer Sessions will be addressed. Summer Sessions is an active partner in campus discussions about the new system. The new 2012 initiative must include enhancements to the class scheduling and instructional reporting system (CSIR) for summer.

It will take time to roll out the new systems, so in the interim UCB will continue to advocate for electronic data exchange among UC campuses for summer.

Six Departmental Funding

Background

Up until 2004, Summer Sessions managed all the costs for each course a department offered. Summer Sessions paid instructors, reimbursed departments for additional expenses, and in the following spring shared revenues by disbursing 60% to departments and 40% to the EVC&P. This arrangement provided valuable discretionary funds that were an important incentive for departments to participate in Summer Sessions.

Analysis of previous years showed that the sum of the expenses paid plus the profits distributed was roughly proportional to student credit hours (SCH) taught by departments. Of course, not all departments were the same: some had high expenses and low profits, while others had low expenses and high profits. However, on a per SCH basis, the sum had very little variability from department to department.

Both former EVCPs Christ and Gray pledged to the units that, with the advent of a regularized Summer Sessions, their revenue share would be protected at the level it was in Summer Sessions 2000, provided that the enrollment (here interpreted as SCH) in the courses they mount in the Summer Sessions does not drop below the level achieved in SS 2000. This pledge is in effect for five years, that is, up to and including Summer Sessions 2008. In the coming summer, if any department's share goes below 2000 levels because of changes in the revenue share formula, Summer Sessions will make up the difference.

2004 Revenue-Share Formula

An analysis of Summer Sessions from previous years indicated that each visitor yielded about 50% more revenue per SCH than did UC students. The total income from visitor fees was approximately what was being distributed as "revenue share." It was proposed to return a portion of the visitor fee income (visitor unit fees and lab fees) to the units. Under the 2004 regularization plan, a formula for revenue share was created, but it proved to be too complicated to administer (and explain) and not altogether equitable. Therefore, the current Summer Sessions director developed a new approach to revenue share (below) that is endorsed by the Task Force.

2008 Departmental Support

Summer Sessions will continue to pay instructional salaries, associated benefits, and other direct instructional expenses (approved in advance). For other departmental expenses arising from summer, funding will be provided based on the criteria below.

- 1) To be eligible for Departmental Support, a course must meet the minimum enrollments for revenue sharing as defined by the Minimum Enrollment Policies.
- 2) For each course of three units or greater offered, \$1,000 will be paid.
- 3) For each SCH generated, \$20 will be paid.
- 4) For each dollar of margin generated by a course, \$.22 will be paid. Margin is defined as total unit fee revenue generated minus return to aid, campus overhead, salary expense, fringe expense, supplies or other expenses.

- 5) Departmental Support will not be provided for independent study courses.
- 6) Additional incentives may be offered in particular years based on specific objectives (i.e., incentives for ladder-rank faculty)
- 7) For every year subsequent to 2008 in which this formula is used, items 2, 3, 4, and 7 will be set based on the revenues brought in for that year.
- 8) Any residual funds not used for Departmental Support will be held in reserve to hedge against economic downturns that may decrease the funding available for Departmental Support.

2008 Minimum Enrollment Policies

Section A: Course Cancellation

- 1. Effective for Summer Sessions 2008, Berkeley Summer Sessions will have the discretion to cancel a course if it does not meet the minimum enrollments indicated in Table 4 (next page).
- 2. The decision to cancel a course can be made up to three weeks prior to the start of a session, but no later than the first week of the session.
- 3. Courses may be cancelled before the three-week window and for courses with enrollments above the minimum at the mutual consent of the offering department and Summer Sessions.
- 4. Department Chairs and/or Deans may appeal to the Director of Summer Sessions to continue a course with enrollments lower than the minimum if the Department Chair/Dean agrees to fund the course costs above and beyond the course revenue. In this case, no revenue share will be provided for said course unless it meets the guidelines in Section B.
- 5. Courses cancelled before the session begins will not pay out any salary for any instructors or graduate students.
- 6. Courses cancelled within the first week of instruction will pay out a prorated salary to instructors and graduate students for the class sessions taught.

Section B: Revenue Share Minimums

- 1. To enable departments to offer low enrollment courses, a second tier of enrollment minimums has been established to participate in revenue sharing.
- 2. For a course to be eligible for revenue sharing, it must meet the enrollment minimums indicated in Table 5 (next page). Courses that do not enroll at or above the enrollments in Table 5 will not receive revenue share.
- 3. Enrollments are defined as official University Census numbers determined in October.
- 4. Any student not officially enrolled on the University Registration system will not count in course enrollments for revenue share or course cancellation

Table 4	Course	Cancellation Minimums	
	Minimum Enrollment		
Units	Undergraduate	Graduate	
1	9	7	
2	10	7	
3	8	6	
4	6	4	
5	5	4	
6	8	6	
7	7	5	
8	6	4	
9	6	4	
10	5	4	

Table 5	Minimum Enrollment Undergraduate Graduate		
Linito			
Units	Undergraduate	Graduate	
1	12	9	
2	12	9	
3	12	9	
4	9	7	
5	7	5	
6	10	7	
7	9	7	
8	8	6	
9	7	5	
10	6	5	

Faculty Provisions

1. Ladder Faculty Teaching of Summer Sessions Courses

The commitment of regularization is that the quality of the Summer Sessions courses is the same as those given in the fall or the spring. The first Task Force interpreted this requirement as meaning that the percentage of ladder faculty teaching courses in Summer Sessions should match the percentage of ladder faculty teaching the same courses in the fall or spring. UC Berkeley will continue to strive for this, but recognizes that this will be difficult to accomplish for reasons enumerated earlier in this review. The quality of coursework is properly the province of the Academic Senate and it may apply numerous criteria beyond whether ladder rank faculty are teaching a course.

2. Ladder Faculty Overload

In the first two years of state support, an incentive program was introduced that offered ladderrank faculty a bonus of 1/18 of their normal salary for teaching a course in Summer Sessions on an overload basis. Due to the terms of the 2004 contract with the lecturers' union, the incentive in Summer Sessions 2004, and subsequently, had to take the form of a faculty research account.

Online Course Development

Summer Sessions introduced the first online course in summer 2007. Statistics N21 was offered with great success: over 100 students enrolled. Summer Sessions will continue to partner with COCI to offer additional online courses and will evaluate the program as it evolves. Faculty and lecturers will be paid up to \$10,000 for each online course developed and for the license to their intellectual property. Faculty and lecturers will also be paid to teach online courses under normal faculty pay scales for summer teaching. The administration and Academic Senate are constituting a Joint Task Force on Distance Learning to deal with pedagogical and operational aspects of online courses.

2008 Study Abroad Program Compensation Guidelines

In 2007, the Travel Study Program was re-established under new regulations. It is the goal of the Summer Sessions Program that every program be self-funding. This is not always possible during the launch of a new program, but if a program is not break-even after two years, it will be cancelled or revised.

- 1. Program Directors will be paid 11% of their annual base (or equivalent) for directing a travel study program. All Program Directors must teach at least 1 (three or more credits) class. Teaching additional units or courses will not accrue additional compensation.
- 2. If a GSI (or local assistant) is assigned to a course, payment for the course will be made to the GSI, not the instructor of record. Offers of employment and the discussion of the financial terms of that employment may only be made by Summer Sessions. Program Directors should not make any offers of employment for the University.
- 3. General GSIs (or local assistants) without instructional duties will not be funded or paid by Summer Sessions.
- 4. Course assistants may be assigned, by mutual agreement with Summer Sessions and the relevant department chair or dean, for course sections over 40 students.
- 5. Per-diem reimbursement will be based on the number of days the students are required to be abroad in the program (official program dates), plus two days (one for early arrival and one for late departure). Earlier arrival or later departure by the program director and/or GSIs will not be included in the per-diem calculation. Local Assistants do not receive per-diem reimbursement. Per-diem amounts will be based on the Department of State and UC Guidelines according to Policy G-28. It must be noted that any meals that are hosted must be reduced from the per-diem amounts in accordance with Policy G-28.
- 6. Round-trip transportation from a Bay Area airport to the program location will be provided for all instructors and GSIs. Local assistants do not receive any transportation. All flights must be booked through the university travel agent using the CTS form at the time the appointment is finalized (late bookings may not be fully reimbursed). Flights must be preapproved by Berkeley Summer Sessions and be the lowest fare available on that day. Exceptions to this policy may be requested to the Assistant Director of Programs in

- writing. Only written approvals of requests will be sufficient to receive reimbursement on an exception.
- 7. Housing will be paid directly by Berkeley Summer Sessions for all instructors and GSIs. Exceptions to this policy may be requested to the Assistant Director of Programs in writing prior to departure and with appropriate documentation. Only written approvals of requests will be sufficient to receive reimbursement on an exception. Reimbursement will not exceed the actual cost of accommodation, the university established maximum reimbursable amounts, or the amount pre-approved in writing by the Assistant Director of Programs.

Special Provisions for Lecturers Serving as Program Director:

- 8. In addition to the amounts above, lecturers will be paid \$1,700 for work completed for program planning or any other pre-departure work. It will be paid upon the completion of the spring semester preceding the program.
- 9. Lecturers will be paid an administrative stipend of \$400 per week (pro-rated for partial weeks) for directing the program for weeks spent overseas. Administrative stipends will not be paid for any portion of a program held on the Berkeley campus. Partial weeks will be pro-rated.
- 10. If a program is cancelled, a pro-rated portion of the pre-departure work will be paid from the date that Travel Study student enrollment begins through the program cancellation date (no amount will be paid if a travel study director withdraws from participation in a program). The pro-rated amount will be calculated as follows:

<u>Travel Study Enrollment Start Date minus Cancellation Date = # of Days</u> Travel Study Enrollment Start Date minus Program Departure Date = # of Days

Expenses

Summer Sessions will follow the arrangement used in previous years in which course expenses are paid and instructor appointments made through the Summer Sessions office. The Summer Sessions office has responsibility for monitoring expenses and for adjudicating their appropriateness.

Seven Steps to Implementation

Issues for Affected Groups

1. Faculty

Allowable Income: So that faculty teaching in summer can continue to earn outside income during their time off, UCOP should revise Section IV, Subsection 660 of Academic Personnel Manual to allow three contiguous months during the year to count as summer for the purposes of calculating allowable income.

2. Undergraduates

Student Aid: Changes are needed to make sure that there is financial aid available for needy students to take summer courses. Each UC student's home campus has been made responsible for its students' financial aid. Efficient administrative structures have been put in place at UCOP to manage this. The campus must continue and expand its commitment to seek grant and/or scholarship funds to ensure similar financial aid packages year-round.

Non-resident Tuition: Since charging non-resident tuition may keep students from attending Summer Sessions and actually slow their progress to degree, the ramifications must be extensively reviewed by UCOP. The Task Force urges that non-resident tuition not be assessed to UCB and other UC students, and that the campus retain its ability to set visitor fees at competitive market rates for summer programs.

Senior Residency Requirement: The senior residency requirement should be changed by the Academic Senate to make it easier for UCB students to take summer courses at other UC schools. This could decrease time to degree.

Campus-based Fees: Every campus-based fee was reviewed by appropriate committees to determine which ones should continue to be charged, and modifications have been made to accommodate summer. Furthermore, all new referenda must contain language regarding whether they will be charged in summer. Enrollment fees for visitors reflect the costs of health services, Class Pass and other benefits, as appropriate.

Course Materials Fees: All summer offerings are evaluated to determine whether fees are sufficient to offset extraordinary costs. Individual departments make these determinations, in concert with the Summer Sessions Office. If additional resources are needed, a Course Materials Fee is sought by the department using normal campus procedures through the Course Materials Fee Committee.

Calendar: Changing the academic calendar for fall and spring—by shortening the semester to 140 days--would allow more students to attend UCB Summer Sessions.

Space Management: SMCP monitors the utilization of classrooms in summer and refines targets annually.

3. Graduate Students

All the issues mentioned in subsection #2 above are matters of concern for graduate students. There are additional issues, as well.

Normative time: The Task Force recommends that UCOP *not* count summer terms in calculating the maximum six semesters graduate students are entitled to state support.

GSI Eligibility: The Task Force recommends that teaching a Summer Sessions course not be treated the same as teaching a fall or spring semester course, and not count against the GSI eight-semesters of eligibility.

Academic Residency: The Task Force recommends that Academic Senate Regulation 690 (p. 15) continue to determine residency.

4. Administration

The Task Force recommends that the campus ask the Office of the President to allow thesis and Independent Studies credit hours taken in summer to count toward summer enrollment statistics reported to UCOP, since they do count for graduation requirements.

5. Student Information Systems

Summer Sessions must coordinate with Kuali to accommodate summer regularization needs.