

Course Closeouts: November 2003 to November 2005

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This report is a first response to a request by the Dean to provide data on course closeouts and to offer recommendations for improvement. The request for such a study was prompted by the fact that students have pointed to course closeouts as a key source of dissatisfaction with their SLU experience. The following questions guided our work:

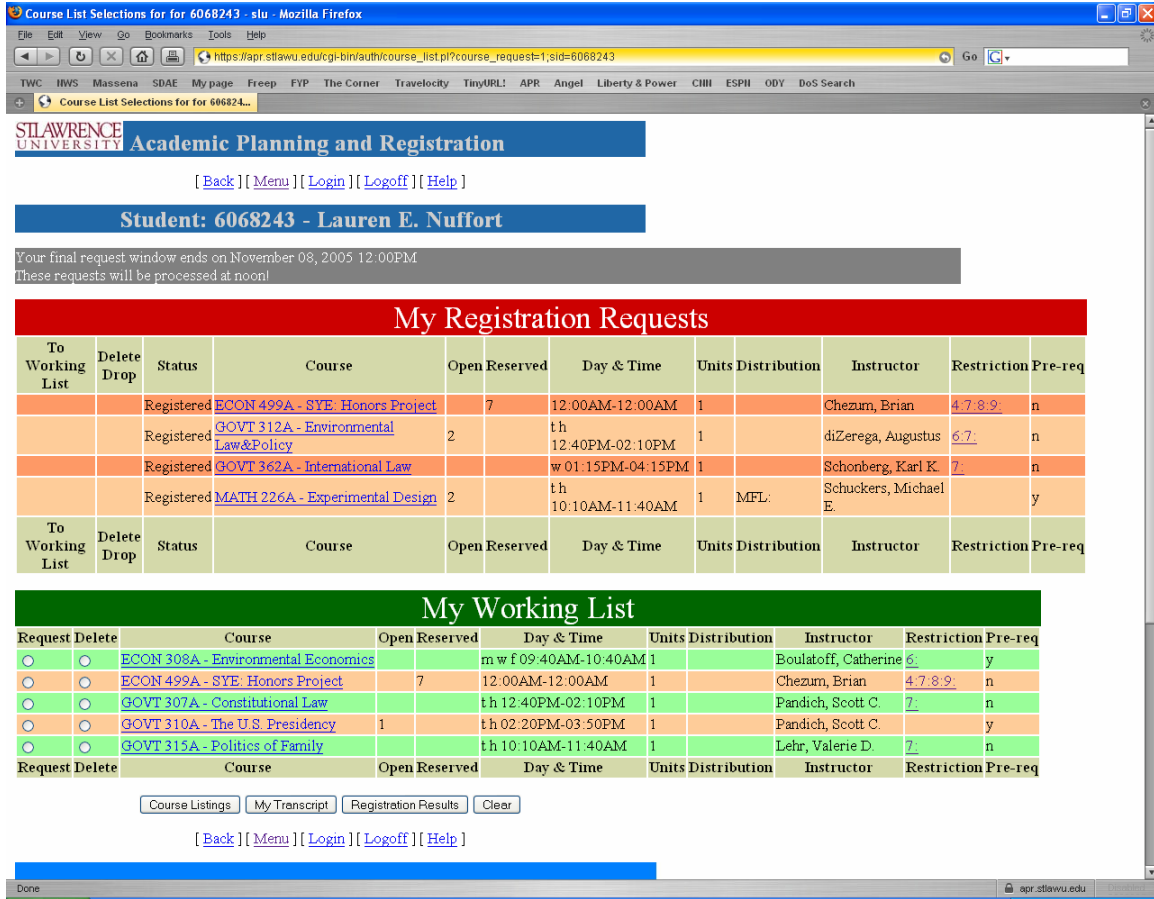
- How should we define course closeouts?
- Why do closeouts happen?
- How widespread is the problem?
- Where are the significant closeouts located?

We conclude our study with some preliminary suggestions for addressing the closeout problem.

Registration via APR

Since April 2003, students have registered for courses using our home-grown software system known as Academic Planning and Registration (APR). The process begins with a two-week advising period during which students prepare “Working Lists” of potential courses on the APR system and then meet with academic advisors to discuss those courses and settle on four in which they will attempt to register. Advisors provide students with a PIN that enables them to move their courses up to their “Registration Requests” list. We have provided a screen shot below. At the end of the two-week advising period, electronic registration begins. Registration is class-year prioritized:

Figure 1: Screen shot of APR system



each class has its requests processed four times. (In the April registration runs, there are only three active classes registering, as the incoming first-years have not yet matriculated.)

When requests are processed, the mainframe uses an algorithm to distribute the requests among available courses. If a student requests one section of a multiple section course that is full, the algorithm moves the student to another section of the same course that is available at a different but compatible time. Once all the course requests have been sorted, results are available on APR. Students can normally check “Registration Results” about thirty minutes after a batch of request runs to see the status of their requests. If a student was not successful in a request, he or she can move new courses up

to the “Registration Requests” list. These new requests will get processed at the next run time and the procedure above repeats. If after four batch runs, a student still has fewer than 4 courses, students may add courses during an open walk-in registration session on the final day of the registration week. There faculty advisors and Registrar’s Office staff process remaining requests.

For two weeks after the electronic registration period ends, students may add and drop courses in the Registrar’s Office any time during the regular work day. This system has had the major benefit of getting the overwhelming majority of students into four courses before leaving campus for the holidays or the summer, reducing anxiety about not having a full schedule and dramatically reducing the problems associated with re-registration upon the start of the new semester. Prior to the advent of APR, students would not have known about any closeouts until weeks after their one and only request time and would have to wait in a long line at re-registration to get a new course or courses. APR allows them to withdraw a request for a closed-out course and get another one in as soon as the course closes, which at least gets them into a next-best course without the uncertainty, delay, and chaos of re-registration.

Defining a Closeout

From the beginning, we have grappled with the question of what exactly is meant by a “closeout?” In particular, we were concerned with how students might use the term versus how faculty and academic affairs staff might understand it. Confusion arises in the fact that there are a number of reasons that a registration request might be rejected. These include a time conflict with another course, the fact that a student lacks a prerequisite, restrictions on available seats in a course, and a general lack of available seats because a

course fills up. We decided to start with the broadest definition of a closeout and narrow it down incrementally until we arrived at what we saw as the core definition from our perspective.

Broadly defined, a closeout might refer to any course that a student wanted in a given semester but did not get. Working from this definition, we quickly eliminated three possibilities from this list: the situation where a student requests a full section and gets another section of the requested course, a course request that had a time conflict with another course, and a course request where the student did not have a pre-requisite. The first case is clearly not a closeout, although the student may be frustrated at not getting the desired time. The latter two cases do involve not getting a requested course and are specifically coded in the registration system as **TIME** and **PRE**. We do not wish to count these two as “closeouts” as they result from student errors in the registration process, rather than an insufficient number of seats to meet demand. A fourth possibility, requiring a more detailed discussion, is that a student has the pre-requisite and no time conflicts, but requests a course that has seat restrictions on it that make the student ineligible to take the course. This is coded as **CORST**.

Closeouts by restriction can happen for a number of reasons. The most simple is that the course is not open to a specific class year (e.g., the introductory Accounting and Education courses are not open to first-years and Introduction to Environmental Studies is not open to juniors and seniors). If a student attempts to move a course from which he or she is restricted to the “working list,” APR will block that move and note the restriction. A student might view that event as a closeout even though he or she was unable even to move the course to the “working list.” Students see **CORST** in their

“Registration Results” when the instructor for a course has reserved a specific number of seats for specific class years or majors. For example, if a section of Speech and Theatre 111 has 20 seats, 10 of which are reserved for sophomores and 10 for first-years, and 12 sophomores request it, 2 of them will see CORST because there were not a sufficient number of sophomore seats to accommodate them. Similar results can occur when seats are reserved for majors. It is important to note that one of the ways in which APR does not provide students with complete data is that although it indicates that some seats in a course are “restricted,” students do not know how many are restricted and the criteria of restriction. If a course seating 30 saves 10 seats each for first-years, sophomores, and juniors, sophomores cannot determine, after the juniors have registered for example, whether the number of seats left under “restricted” are all for them, or how many for them and how many for first-years.

The narrowest definition of a closeout is the situation of a student being eligible to take a course but does not end up enrolled in it. This is coded as **CO**. So, for example, if Economics 100 has 150 total seats, all available to anyone, and 165 students request it, then 15 will see CO on their registration results. This is our core notion of a closeout because it most unambiguously reflects the fact that the number of seats offered in the aggregate was insufficient to meet the demand for seats. The CORST closeout may be due to an insufficient number of seats in the aggregate, or it may be due to seats being poorly distributed across different categories of students with faculty not reacting nimbly enough to adjust during the process.

In our data below, there is one aspect of how APR works that we have not captured, but that students most likely consider a closeout. Suppose, for example, a first-

year student is going through November registration and has put Speech and Theatre 111 in her Registration Request list after meeting with her advisor. As the other three class years register, she notices that all of the seats in that course fill before her first request run happens. Wisely, she deletes the request from her list and puts up a new course *before the request for S&T 111 is even processed*. The data below do not include this scenario because the data we used were actual requests that were not met. We think we can get at some of this data, but doing so will have to wait for a later phase of this study. We do not have a clear sense of how common this “withdrawn request close out” might be, although anecdotal evidence based on our work as advisors suggests that several advisees per semester will make such switches, especially first-year students during November registration for spring courses. These are clearly closeouts as they reflect students who were eligible for a course but unable to find a seat. The difference with our core notion is that they never actually were able to request it because the course closed before their request window opened. In a subsequent phase of this study, we hope to talk to students about these various notions of closeouts and see how their perceptions correspond with our framework here.

Examining and Interpreting the Data

Table 1 on the next page offers closeout data for the past 5 semesters, both in the aggregate and broken down by type. As noted, the CORST category did not exist in the first semester we used APR, so the November 2003 data is not as finely broken down. Also keep in mind that the two sets of April data are for three class years only, while the November data include all four. Finally, this data does not capture any students who

were closed out during the APR process but who got seats in the course during the drop/add period at the start of the semester.

Table 1: Overall closeout data for past five semesters

November registration for Spring		April registration for Fall	
2005		2005	
Total Closeouts	1366	Total Closeouts	1320
Lacked prerequisite	195	Lacked prerequisite	119
Time conflict	15	Time conflict	10
Seats restricted	322	Seats restricted	723
Closeout	834	Closeout	468
2004		2004	
Total Closeouts	1414	Total Closeouts	1105
Lacked prerequisite	175	Lacked prerequisite	59
Time conflict	8	Time conflict	38
Seats restricted	458	Seats restricted	556
Closeout	773	Closeout	452
2003			
Total Closeouts	1398		
Lacked prerequisite	114		
Time conflict	6		
Closeout	1278		
<u>Notes:</u>			
The "corst" (seats restricted) category did not exist in Nov 03			
April registrations include only three class years			

Total closeouts for Novembers average 1393. Subtracting the TIME and PRE closeouts gives an average of 1219. Given approximately 1900 students registering, this comes out to 0.64 closeouts per student, though, of course, actual student experience of closeouts will be very uneven; many students get all of the courses they request, some are closed out of more than one, and every semester a few poor souls are closed out of all of the courses they first request. Viewed differently, on average, 2 of every 3 students were likely to get closed out (CORST + CO) of one course. (As we note later on, this average

is somewhat misleading, as the burden of closeouts primarily affects sophomores and first-year students.) If we go with just CO for the two semesters we can distinguish CORST from CO, it is .42 CO/student, meaning that the majority of students, on average, did not experience the CO type of closeout.

The data for April registration look a little different. Total closeouts averaged 1213 for the two years. Subtracting PRE and TIME, gives an average of 1100 per April, and an average of 0.81/student assuming 1350 registering (three class years = 1900 – 550). On average 4 out of 5 students could expect to get closed out one way or the other, although the actual student experience is likely to be different from that average. If we look only at CO, there was an average of 460 per April, or 0.34 per student. Only one of three students could expect to see a CO over the course of the registration process. So again, a majority of students did not experience a CO.

The most notable difference between April and November is the relative weight of the CO and CORST in the total number of non-PRE and non-TIME closeouts. The April registration process for fall involves more CORST closeouts than CO, while the November process has more CO closeouts than CORST. After noting this disparity, we decided to examine the CORST data in more detail, breaking it down by class year for each semester. The results are in Table 2 below.

Clearly, there is a pattern to the CORST data, namely that the majority of them affect sophomores. In all but the most recent semester, sophomores comprised well over 50% of the CORSTs. Our interpretation of this phenomenon is two-fold. In general, sophomores are often in search of lower-level courses that fulfill distribution requirements. These courses (especially Speech and Theatre 111) typically reserve

Table 2: Breakdown of CORST closeouts by class year

November registration for Spring		April registration for Fall	
2005		2005	
Total CORST	322	Total CORST	723
Seniors	83	Rising Seniors	110
Juniors	74	Rising Juniors	205
Sophomores	156	Rising Sophomores	407
First-years	9		
2004		2004	
Total CORST	458	Total CORST	556
Seniors	45	Rising Seniors	41
Juniors	82	Rising Juniors	103
Sophomores	314	Rising Sophomores	401
First-years	17		
<u>Notes:</u>			
The "corst" category did not exist in Nov 03			
April numbers do not total correctly because of a small number of the prior year's seniors taking courses in the fall in order to complete their degrees.			

significant number of seats for first-year students. When sophomores register for spring courses, they find that they request seats for courses in which many are reserved for first-years, leading to the CORST closeout. This worsens in the spring when a larger number of seats are saved for first-years. Since first-year students do not participate in the process, faculty try to ensure that seats are available to them when they register during Orientation in August. As the course-specific data in Table 3 show, the distribution courses, especially GNDR 103 (DIV) and S&T 111 (AEX), are the hotspots for CO closeouts. They are also hotspots for the CORST closeouts as well, especially ENVS and S&T, which reserve seats for specific class years.

In interpreting this data, we tread carefully. First, although we did not break this aggregate data down by class year, the CORST data shows the pattern we would expect: the burden of closeouts falls on the first-years and sophomores. So although in the

aggregate, closeouts are less than one per student, first-years and sophomores are above that mean, while juniors and seniors are below. It is worth noting in Table 3 below that all of the courses with consistent patterns of 5 or more closeouts over the last 4 semesters are at the 100 or 200 level. No upper-level course closed out 5 or more students for 3 or 4 of those semesters. We have some discussion in the next section concerning courses that enrolled 5 or fewer students, and in general those courses are at the 300 and 400 level (67.4% between Fall 04 and Spring 06). This further suggests that a reallocation of seats toward lower-level course would ensure a more effective use of faculty time.

One encouraging note is the reduction in CORST numbers this past November, especially in the relative impact on sophomores. This may be the result of faculty and department chairs more accurately anticipating the demand by class year and making more seats in distribution courses available to sophomores. We have been aware for some time that sophomores present us with the greatest challenges for advising and registration. In the limbo between having seats reserved for them as majors in their junior year and having seats reserved for first-years who register after them, they often have the most difficulty in getting what they would like, as the CORST data bear out. In looking at this data, we believe that department chairs should continue to think carefully about their course offerings and the ways in which they reserve seats to ensure that sophomores have access to both distribution courses that they might need or wish to fulfill and to “gateway” courses to majors. Although we certainly wish to reduce the total number of closeouts, if the relative burden is borne more by first-years than sophomores, it is at least the case that the first-years have more time to meet requirements or get busy in the major and thus have more opportunities to try again to get a course. Sophomores

feel an immediate time pressure, thus their experience of closeouts is likely more frustrating psychologically and more damaging to their ongoing academic planning than are closeouts for first-years. Given that some number of closeouts will always be with us, it is worth asking what distribution of that burden is the least damaging to student academic planning.

In Table 3 below, we have identified each course that closed out 5 or more students at any point in the last 4 semesters, using the CO measure of closeout. We have highlighted various subgroups worthy of attention. Again, this data cannot capture the “withdrawn request closeouts” that occur when students see a course closeout on APR.

Table 3: Courses that closed out (CO) more than 5 or more than 10 students, by semester.

KEY:

Green: 3 semesters in which 5 or more students were closed out.

Yellow: 4 semesters in which 5 or more students were closed out.

Red: 4 semesters in which 10 or more students were closed out.

Lavender: 5 or more students closed out in both November registrations, which included first-year students

COURSE	Nov 2005		April 2005		Nov 2004		April 2004	
	5-9	10+	5-9	10+	5-9	10+	5-9	10+
Anth 102		X						
Anth 220								X
Anth 238	X							
Bio 209			X					
Bio 221			X					
Bio 240							X	
Bio 241			X					
Bio 245		X				X		
Bio 246			X					
Bio 250			X					
Bio 270							X	
Bio/Psych 280		X						
Bio 320			X					
Bio 326		X	X					
Chem 221			X					
Chem 309							X	
Clas 104	X							

COURSE	Nov 2005		April 2005		Nov 2004		April 2004	
	5-9	10+	5-9	10+	5-9	10+	5-9	10+
Cns 101						X		
Econ 200					X			
Econ 251						X		X
Econ 307		X			X			
Econ 308		X						
Econ 309					X			
Econ 336	X							
Educ 203							X	
Educ 301					X			
Educ 305					X			
Eng 201				X		X		X
Eng 230	X							
Eng 241		X		X		X	X	
Eng 242	X		X			X		X
Eng 243		X		X		X		
Eng 250								
Eng 290						X		X
Envs 101		X						
Envs 106	X							
Envs 243								
Envs 249				X			X	
Envs 255	X							
Envs 275			X		X			
Envs 321							X	
Envs 335					X			
Fa 121		X				X		
Fa 239			X		X			
Fa 249			X					X
Fa 259							X	
Film 211					X			
Film 247						X		
Gndr 103		X		X		X		X
Govt 105							X	
Govt 206						X		
Govt 245	X							
Govt 290		X	X		X		X	
Govt 302			X					
Govt 307	X							
Govt 310		X						
Govt 361			X					
Govt 373					X			
Gs 230						X		
Gs 255			X					

COURSE	Nov 2005		April 2005		Nov 2004		April 2004	
	5-9	10+	5-9	10+	5-9	10+	5-9	10+
Soc 306	X							
Soc 307				X				
Soc 335		X						X
Soc 367		X						
Span 213					X			
Sses 100		X			X			
Sses 115		X		X		X		X
Sses 212	X		X		X		X	
Sses 216		X	X			X		X
Sses 218						X		
Sses 248		X	X			X		

It is clear that there are a number of persistent bottlenecks, namely Gender Studies 103, the 200-level English courses, Fine Arts 121, Psychology 100/101, and Speech & Theatre 111. Had we simply guessed where the largest number of closeouts would be before undertaking this study, these would have been near the top of the list. What all three have in common, especially Psych 101, FA 121, and S&T 111, is that they fulfill distribution requirements. Psych 101 fulfills the natural science with lab and and FA 121 and S&T 111 fulfill the arts and expression requirements, and these are two distribution requirements in which choices for students whose interests or abilities outside those divisions (i.e., the natural sciences or arts) are perceived to be limited. Students outside the sciences prefer taking Psych 101 to fulfill the NSC-L requirement, as it enables those less adept at the sciences to avoid what they perceive as the more difficult Biology, Chemistry, and Physics courses. The course is also very popular simply because Psychology is a popular major and because it is one of the gateway courses to that major. However, other popular majors (e.g., Biology, Government, Economics, English) do not face closeout problems at the introductory level because they do not face the additional burden of being a highly popular distribution course. Biology and Economics in

particular are also very willing to up course maximums to accommodate almost everyone who wishes to take the course. The same is true of the 100-level Mathematics courses. Psychology, due to the constraints of staffing a very popular major, cannot adopt this strategy.

Speech and Theatre 111 does not face the demands of a popular major, but the course is one of a fairly small number available for the AEX distribution. In addition, students rightly recognize, through the emphasis in FYP and FYS, the value of developing their oral communication skills. The combination is heavy demand for a course offered by a small department that must also serve its modest number of majors and contribute to the FYP. The closeouts for Fine Arts 121 can be analyzed in exactly the same way: it is an AEX course that is also a gateway for the major and pretty consistently closes out a large number of first-year students, almost all of whom, it should be noted, get in the course as sophomores.

The bottleneck with the 200-level English courses reflects similar problems. These courses are also among the few available for the AEX distribution and they also serve as gateway courses to the upper-level courses in a popular major. Here too, most students get the course after one, or perhaps two, tries, but this can be very frustrating and can upset carefully made academic plans.

Gender Studies 103 meets the DIV requirement and is high demand as a result. With emphases on gender issues in many other courses, including a number of FYP and FYS courses, many students also see the course as making intellectual sense in their curricula. Offering only one or two sections per semester, and trying to keep maximum size pedagogically responsible, has led to a great deal of excess demand for this course as

well. Clearly, the most consistent and significant effects of the closeout problem are on the 100 and 200 level distribution courses, particularly those that are gateway courses to popular majors.

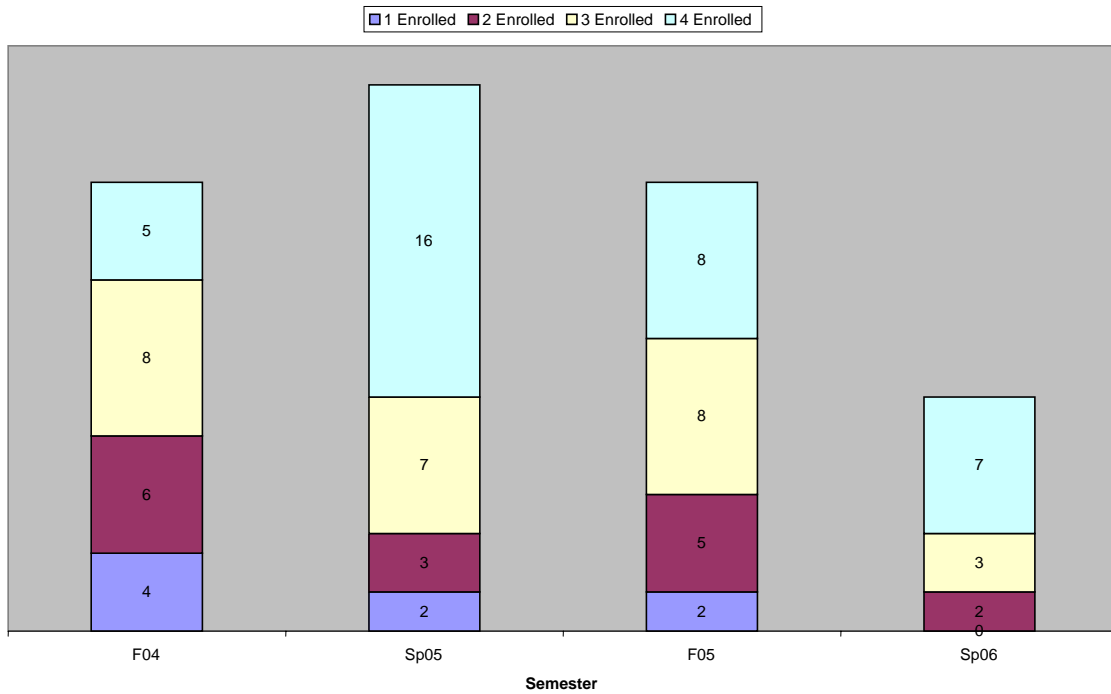
Possible Solutions:

Given this analysis, what are the options for addressing the problems? One solution that likely leaps to mind is to simply increase the size of each section of these courses to accommodate the demand. In some cases, this solution is perfectly reasonable and appropriate. Unfortunately, in many cases, there are sound pedagogical reasons to keep the class sizes limited, normally around 15. For the S&T and English courses, that size is necessary for faculty to be able to do the up-close instruction that such courses require. This is why we limit FYP and FYS to student-faculty ratios of 15 or 16 to 1. The research is clear that any size greater than that makes skill instruction more difficult and makes it too easy for students to get “lost.” With Psychology 101, a similar argument holds for the size of the laboratory sections. Gender Studies 103 could perhaps expand class size, but even there we know the benefits of keeping class sizes to 20 or fewer where we can.

If raising course maximums is not good pedagogy, and we do not increase the number of faculty, and assuming we continue with the same distribution requirements in the short run, one clear solution is to shift existing faculty resources from upper-level courses to those areas that are in demand from outside the department. Combining our analysis here with a look at low-enrolled courses might strengthen this argument. To the extent that low-enrolled courses are at the upper-level and in electives for the major, that would suggest significant benefits from shifting those faculty to the courses in demand

university-wide. In fact, over the two-year period ending this current semester, two-thirds of low-enrolled courses have been at the 300 or 400 level. The Dean has been managing the problem of low-enrolled courses within the parameters of our current policy, and the data indicates this strategy has been fairly effective, but it remains uncomfortable on the face of it to have both chronic closeout problems and chronic low enrollment problems. As the faculty considers the possibility of adopting a minimum course size, such a provision should be seen in the context of our analysis here.

Figure 2: Comparing Low Enrollment by Semester



Shifting faculty from under-enrolled upper level courses will not work for Psychology however. They also face a fairly constant closeout problem with various upper level courses and could not reallocate faculty to the 100 level. Other departments with upper level closeouts (e.g., Biology, Economics, Environmental Studies, Government, and Sociology) do not face the same crunch in their introductory courses as

does Psychology and/or they have more flexibility to increase class sizes as demand requires (although this ability is somewhat limited in Biology). One solution to the bottleneck with Psychology 101 is for other science faculty to offer more introductory courses with lab components that appeal to non-scientists. The Astronomy course in Physics does this to an extent, but it is not enough. We have offered a few such courses in the past and they were quite successful. Offering more such courses would not only ease the close-out problems facing Psychology 101, but would broaden the exposure of non-science students to the possibilities of the lab sciences.

As we also noted earlier, departments offering these highly demanded distribution courses will need to think very carefully about how they allocate seats among first and second year students. If we are unable to offer more seats in these courses, it probably makes sense to favor sophomores in the allocation of seats as their shorter time horizon means that they need to meet those requirements more immediately than first years, who will have additional chances the following year. It might also make some sense to reconsider the prohibitions on declaring the major earlier than the spring of the sophomore year. The data in Table 2 clearly shows the burden of the CORST closeouts falling on sophomores, most likely because they are either trying for distribution course seats reserved for first-years or because they are trying to get into courses restricted to the major. In a further evolution of this study, we might try to look at that data more closely.

The problems we have identified also open up the question of whether our current set of distribution requirements, or any set of distribution requirements, are really serving us well. Many students (and faculty) note that the designation of courses as satisfying distribution requirements appears arbitrary. Although courses carrying distribution credit

have been vetted by the Academic Affairs Committee as having met certain criteria, the burden of applying for distribution credit lies with individual faculty members and not all choose to go through that process. Students ask (rightly, in many cases) why one course in a department satisfies a particular requirement while another similar course does not. We could imagine a distribution system whereby all the courses in a department satisfied a particular distribution requirement, thus significantly reducing the stress on lower-level courses. In the History department, for example, nearly every course carries the humanities designation and as a result, while those courses enjoy significant enrollments, few suffer from closeout problems. Or, we could also imagine a radical revision of our notion of the need for distribution requirements as a means for achieving our “Aims and Objectives” as a liberal arts institution. However, that project is beyond the scope of our present study.

Conclusions, Recommendations, and Avenues for Future Investigation

Our conclusions are mostly captured in the preceding discussion of the data. Two summary points can be made here. First, the closeout problem is more complex than often presented. The word has multiple meanings, many of which we have tried to capture here with data. As noted, we have yet to capture the “withdrawn request” data, although we believe we can do so in a next phase of this study. Second, the closeout problem mainly faces sophomores and first-year students and tends to be disproportionately centered around 100 and 200 level courses that meet distribution requirements that are satisfied by a small number of courses, many of which also serve as gateways to the major. Consistent closeout problems are rarely found at the 300 and 400 level.

We would recommend the following as the easiest short-run solutions to the problems we have identified, in ascending order of effectiveness:

- Pay closer attention to the distribution of seats among the various class years, especially in distribution courses. Specifically, we recommend ensuring sufficient seats for first and second year students, with some preference to the sophomores where possible.
- Offer more NSC-L distribution courses that will appeal to non-scientists so as to ease the closeout problems in Psychology, both at the intro level and at the upper level. Reducing the distribution demand for Psychology 101 could free faculty resources to address the closeouts in upper level Psychology courses. The Psychology department could also consider restructuring the 101 course along the lines of General Biology, which might allow them more flexibility to increase course size when demand warrants.
- Where pedagogically sound, raise enrollment maximums in distribution courses.
- Open up the distribution course approval process so that more 100 and 200 level courses in specific departments can count toward distribution credit without faculty having to initiate the Academic Affairs approval process.
- Consider adopting a minimum course size rule and encourage faculty or departments that offer chronically under-enrolled courses to offer more distribution courses instead. This strategy will be particularly effective in departments with a small number of majors who offer low enrolled upper-level courses that are not required for the major.

- More generally, we need to, where possible, shift resources from upper level courses to those that meet distribution requirements at the lower level.

We would like to continue this study over the course of the year with three additional avenues for research. First, we would like to get more student input into this study, both by sharing this document with students and by doing some focus group work on the more general topic of closeouts. Second, the data we have already compiled can be analyzed in some ways we did not have time to do here. We would like to look more closely at the patterns in closeouts, both by courses and by student. Finally, we believe we can capture data that would shed light on the “withdrawn request” closeouts and thereby give us a more complete picture of the problem.