Dear Bev,

The Department of Mathematics would like to request permission to hire two tenure-track positions in mathematics. Since the deadline for this request is before we have completed hiring for next year, we are assuming we will be successful in our hiring, and would like the tenure-track lines to begin in fall 2015. We write now because we would like to assist you in your long-term planning for tenure-track positions, and this would also allow us to take into account any recommendations that may arise from our Departmental Review in 2013-14.

From the Student Perspective:
Over the past ten years, the number of majors in our department has grown [as steadily as these things can] from about 20 majors per year to over 40 majors per year. (The graduating classes of 2013 and 2014 are 41 and 47.) The natural spikiness of these numbers levels out some when you look at the chart of the total numbers of majors (juniors and seniors) over the past 20 years. You can easily see from the chart that we have been experiencing spectacular growth in our department. Our lower-level courses have always been solidly enrolled, but we can no longer count on reasonable class sizes for our upper-level courses: this year, for example, of the students who took 6-credit classes numbered below 236 (Math Structure), 72% were in a class with at least 25 students in it; of the students who took 6-credit classes numbered 236 or higher, 55% were in a class with at least 25 students in it.

We are experiencing growth not only in our number of majors, but also in both the upper- and lower-division course enrollments. The total enrollments since 2006-07 (which is the first year after Computer Science split off as its own department) have increased steadily from 1151 to 1481, a 29% increase over just six years!

Perhaps a clearer way to compare workload across the campus is to look at the total number of credits awarded to students through our department. That takes into account the work that is done for comps and for independent studies as well. (That is, one student in one 6-credit class counts as 6 credits, while 3 students in 2-credit independent studies also counts as 6 credits.) This number has also experienced significant, steady growth over the past 7 years from 7044 to 9106 this current
year. This is a nearly 30% increase with no increase in regular faculty FTE. While our department has 11.4 regular faculty FTE to the College’s 200.9 regular faculty FTE, or 5.7%, in 2011-12 (the most recent complete year), our department awarded 8773 total credits of the 100,133 total credits awarded at Carleton that year, or 8.8%.

While the Admissions Office advertises that the average class size is 18, the average class size in the Department of Mathematics has increased over the past 7 years from a low of 20.6 to a high this year of 24.7. And while we advertise that 61% of Carleton classes have fewer than 20 students, the percentage of our classes which have fewer than 20 students in that same time period has averaged 28%.

**From the Faculty Perspective:**
We currently have 11 full-time regular faculty in our Department, plus Jack Goldfeather who is on phased retirement (and .4 FTE) and several visitors. By 2015, Jack will have retired. In 2006-2009, the number of sections which we taught each year were 56, 54, 55. From 2009-2012, our magic number was 54, and we taught 55, 55, 60. From 2012 on, our magic number has been 57, and we have taught or have been approved to teach 60, 60, 59. Since our last retirements in 2007, we have taught 6, 5, 11, 8, 5*, 11, 15 (anticipated), 10 (anticipated) with visiting faculty. [*This was the last year that any of our faculty taught a 6-course load; since then, the number of courses we’ve needed taught by visiting faculty has been in the double digits.] That’s as many as one-fourth of all of our sections taught by visiting faculty. While we enjoy and appreciate our visitors, we do not get the same level of quality of instruction from them that we do from our regular faculty; in one case we experienced an unmitigated disaster.

Why are we continually needing to hire visiting faculty? It’s a simple calculation: A full-time faculty member teaches 4.6 classes per year on long-term average (figuring in sabbaticals). So 11 FTEs can cover 11x4.6=50.6 sections per year on average. My data doesn’t go back far enough to see when we were last teaching so few classes. Note that 12x4.6=55.2 also doesn’t cover our magic number of 57 sections. It’s 13x4.6=59.8 which is closest to what we actually teach. And the 60 sections per year that we’ve actually been teaching recently have been oversized classes. We’re not asking for additional classes in this proposal to lighten our load. We’re just requesting to staff our classes with tenure-track people who have a bigger stake in the Department and the institution and which would allow us not to be hiring constantly.

The President said we should look for efficiencies in our work. Hiring tenure-track faculty instead of continually hiring visitors is a much more efficient use of our resources. There is less start-up time in training and mentoring new faculty, there are more faculty to advise our majors, there are more faculty invested in the department to help with long-range planning and building the community. And there is a significant, significant decrease in the amount of time spent in hiring. I estimated (but not exaggerated) the number of hours that faculty in my department spent on hiring in the 2011-12 hiring season. We hired 3 faculty that season, which is the same number we are hiring this year. I did this estimate before one of the folks who had signed a contract to work for us withdrew, we needed to hire someone else at the last minute, and that person turned out to cause many hours of trouble, headaches, meetings with students, and conversations with the Deans. Those extra hours are not included. Before that difficulty, our department collectively spent well over 750 hours on hiring. That’s over 19 weeks of faculty time, or more than one-third of an FTE. That’s ridiculous. If each year we are collectively spending one-third of an FTE on hiring, it’s no wonder we feel exhausted and overworked.

As I mentioned earlier, we are still in the midst of the hiring process for this year. We have extended Andrew Gainer-Dewar’s contract by one year for 2013-14. We have hired Miles Ott (a statistician) to teach for two years 2013-15. We are currently looking for a mathematician to teach for two years 2013-15. If we are successful in that hire, we will be [mostly] set through 2015. Then in 2015-16, anticipating that folks will receive their sabbaticals as scheduled, we only have 45 sections covered, and we will need
to hire 3 faculty for that year. In 2016-17, we only have 48 sections covered. These numbers (the 45 and 48) are just allowing for a Chair release and sabbaticals which are planned. These numbers do not allow for other course releases for other reasons. (Next year in our department, for example, we have 8 courses which are releases for non-sabbatical reasons – we are not factoring in this possible additional decrease in teaching after 2015.)

In addition to all of this, the cohort of three faculty which will become the senior faculty (by age) after Jack retires are at this time already in their sixties.

Since I arrived in the Department in 1994, we have never once had a superfluity of FTEs with the problem of not enough classes or students to be taught. It’s unrealistic to think that we will suddenly satiate the need for mathematics and statistics and be over-staffed. If anything, in this economy and in the growth of technology and in the push by the government for an increase in STEM majors, there will be further increase in the need for mathematics and statistics classes at Carleton. (We have already seen a huge demographic shift in lower-level statistics which is now predominantly populated by STEM majors.) We are not [at least at this time] asking to increase anything or to decrease our teaching workload. We are simply asking for the number of tenure-track faculty sufficient to cover the classes we are already teaching.

For the Department,

Deanna