

# The Proposed Atlantic Canada Mathematics Curriculum

## A May 2001 Update from the APICS Mathematics/Statistics Committee

Since October 1995, in the five and a half years since we composed our initial response to the proposed Atlantic Canada Mathematics Curriculum, detailed descriptions of the curriculum have been produced, and the courses are now more or less running, with appropriate texts, to the grade 10 level at least.

A few worrisome features of the original draft curriculum were removed or modified. Moreover, the sequencing of the various topics has been altered a little, particularly in New Brunswick. (It is worth noting that Francophone schools in New Brunswick do not follow the “common” curriculum, but nevertheless have recently introduced their own new mathematics programme.)

Unfortunately, for the most part, we must still express the same concerns with the common curriculum that were outlined in our submission of 1995:

- there is not nearly enough emphasis on the mastery of basic skills, from long division to addition of fractions, to manipulation of exponents.
- the curriculum documents should, but do not, explicitly state that students of such and such an age must have mastered various skills and ideas.
- certain topics in algebra (e.g. manipulation of algebraic fractions) are introduced far too late, or are insufficiently emphasized.
- in contrast, there is what we feel to be an overemphasis on statistical concepts and discrete mathematics. While these could be useful and interesting topics, they do take away precious time from more fundamental ideas. For example, incidence matrices for directed graphs (grade 10) just don't lead anywhere for most of our students.
- there is still no indication that all teachers currently in the system will be able to properly present the new curriculum. For example, can our teachers properly explain the uncertainty that goes with data analysis (Grade 10 and elsewhere)? (Let us be forthright: this is a topic with which many university mathematicians are uneasy.)

In short, while the new common curriculum might address the needs of some students, it threatens a disservice to students headed for university or community college.

Finally, it is important for universities in the region to understand that **students entering science, engineering or other technical faculties, must be required to have all four high school mathematics courses described in the common Atlantic Canada Mathematics Curriculum. Three will not do.**

The fourth high school mathematics course has been packed with topics omitted in earlier courses, but required in university and community college. It is difficult to believe that students (emerging from the slower-paced, and less rigorous first three high school courses) will be able to work at the pace required to grasp so many new topics.

If the final two of the four basic courses deliver as intended, then it may be that university bound students will be sufficiently prepared. Even so, certain skills that we now regard as desirable, will have been de-emphasized or perhaps covered two or three years later than in some other school systems.