

In Celebration of

Computing

the Sciences, and Engineering

There is some substantial confusion, apparently, about the job markets in the various STEM disciplines (computer and information sciences; life and physical sciences; mathematics; and engineering and engineering technology).

Here is a graphical view of the relative job markets. This document up till now has been in a point size scaled to the average job growth forecast for occupational categories requiring at least a bachelor's degree (17% growth

over ten years). This, in contrast, is what the engineering job growth looks like (10% growth, just at the national average for all jobs, not just the jobs for college graduates). The various science disciplines other than computer science look like this, at 19% growth. Computer science, on the other hand, looks like this. At 22% growth, computer science leads all other categories for job growth.

That's growth, i.e., the first derivative. What about the raw numbers of jobs? Huge growth doesn't mean much if one is multiplying large growth times a very small

number. Well, here again, the figures are enlightening. **If**
we portray

the 1.383
million job
openings in
computer
science in
type font this
size,

then the openings in
engineering look like this, the openings in life science look like this,
and the openings in the physical sciences look like this.

Finally, anyone who is going to play numbers games like this has to answer the question of supply and demand. How many jobs are there going to be, and how

many graduates will there be competing for those jobs? If we

portray a perfectly stable market (one job per person) in type font this size,

then **the**

computer

science job

market looks

like this at

2.74 jobs per

person. The engineering job market looks like this, at 0.8 jobs per person. The life sciences look like this, at 0.16 jobs per person (actually, this is twice too big but I don't have a smaller font), and the physical sciences look like this, at 0.72 jobs per person. That's right. In all the science and engineering disciplines except

computer science

, we are producing more B.S. degree graduates than there are jobs forecast for them.

So why not computer science?