

Remedy for fear of physics

I am very disheartened when I hear of decreasing enrollments of liberal-arts students in the physics and astronomy courses. Four years ago, I began to investigate the problem and have come to interesting conclusions. I have implemented these thoughts, and, I believe, not in vain, since my modern-physics/astronomy course has increased in enrollment from 45 to 200.

What I essentially discovered was that liberal-arts students are intrinsically interested in physics and astronomy, but they are terribly afraid of not understanding it, especially when it comes to dealing with mathematics. Thus the main task is to make students comfortable and feel that some of the physics and astronomy phenomena are indeed very much in line with their own way of thinking and philosophy. Introducing mathematics as a mere tool and letting the students search for the necessity of the tool themselves makes students unafraid of the mathematics used and develop confidence with it. They also begin to feel that they are the ones who have the real control over the mathematical manipulations, because it is just a tool they use. It is usually a good idea in the introductory lecture to whet the appetite of the student by relating to him some of the striking phenomena in physics and astronomy. Then one can casually bring up the need for mathematics.

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