

Re: Role of CAS in education: was Re: Historical CAS question

Source: <http://sci.tech-archive.net/Archive/sci.math.symbolic/2005-01/0230.html>

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Date: 25 Jan 2005 10:39:05 -0800

"Robert H. Lewis" wrote:

> *On Mon, 24 Jan 2005 15:30:00 -0800, Richard J. Fateman wrote:*

> > *This discussion must have happened in other*

> > *places and times.*

> > *I'm sure I've discussed this more than once!*

> > *Maybe we can find something on www; e.g.*

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> > <a

>

href="<http://www.mste.uiuc.edu/users/Murphy/Papers/CalcReformPaper.html>"><http://www.mste.uiuc.edu/users/Murphy/Papers/CalcReformPaper.html>

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> *That's an interesting article but biased toward the use of CAS.*

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> > *mike_sh@nospam wrote:*

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> > > > *That said, I have experimented with using Maple in first year*

> > > > *calculus*

> > > > *for engineering students, but it ain't easy. There is just too*

> > > > *much*

> > > > *material to cover, and these students don't have enough time on*

> > > > *their*

> > > > *hands to get deeply into anything.*

> > > > *I agree.*

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> > > *True. But it also the fault of the schools. Schools expect*

> > > *students*

> > > *to know how to use these systems, but they never take the time*

> > > *to teach these things as a separate subject.*

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> *In my experience, we don't expect them to know it, and there is*

> no way there is going to be time for them to learn it. Many, many
> students find the use of computers for anything beyond web surfing
> or word processing to be daunting. There would have to be an entire
> course dedicated to the use of CAS software. Academic politics make
> this virtually impossible, in my experience. Perhaps those who
> teach at engineering schools have a different experience. Great,
> good for them.
>
> An essay on my web site about the nature of mathematics and
> education might be of interest. Go to www.fordham.edu/mathematics
> and click on WhatMath?
>
> Dr. Robert H. Lewis
> Mathematics Department
> Fordham University

I teach graduate courses in engineering using CAS for assignment and application examples. Students are supposed to learn those on their own time. Same as with other software tool. In my experience it takes only a few hours for them to learn all they need. In essence they use a CAS as a glorified calculator.

Spending time in class on that subject would be off topic. And that is true of any utility: teaching a course in dental hygiene should not involve lectures on the fabrication of toothbrushes.

In the Applied Math department they do use CAS at a somewhat deeper level. They offer 1-hr-a-week service labs for students wishing to be guided to deeper waters in matlab, mathematica, etc. Labs are taught by graduate students or postdocs. There are no courses devoted to CAS I am aware of in the entire university – the market would be extremely small.