The Learning*Online* Network with CAPA (LON-CAPA)

Homework and Exam System

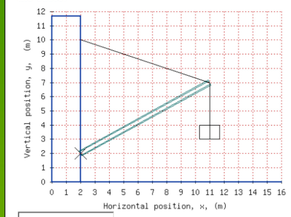
Open Source Learning Content Management System

One Problem - Many Versions

•In LON-CAPA, the same problem can be used for homework and for exams.
•Every student gets a different version of the same problem:
- •different numbers and formulas
- •different graphs
- •different images
- •different option, choices, scenarios, etc

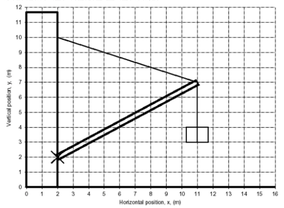
… collaboration, not cheating

A crate with a mass of 177.5 kg is suspended from the end of a uniform boom with mass of 88.5 kg. The upper end of the boom is supported by a cable attached to the wall and the lower end by a pivot (marked X) on the same wall. Calculate the tension in the cable.



Submit Answer

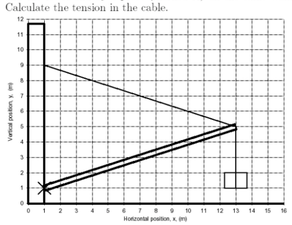
1 pt A crate with a mass of 177.5 kg is suspended from the end of a uniform boom with mass of 88.5 kg. The upper end of the boom is supported by a cable attached to the wall and the lower end by a pivot (marked X) on the same wall. Calculate the tension in the cable.



(in N)

22. A○ 2.58×10^{3} B○ 2.92×10^{3} C○ 3.29×10^{3}
D○ 3.72×10^{3} E○ 4.21×10^{3} F○ 4.75×10^{3}
G○ 5.37×10^{3} H○ 6.07×10^{3}

1 pt A crate with a mass of 155.5 kg is suspended from the end of a uniform boom with mass of 89.5 kg. The upper end of the boom is supported by a cable attached to the wall and the lower end by a pivot (marked X) on the same wall. Calculate the tension in the cable.

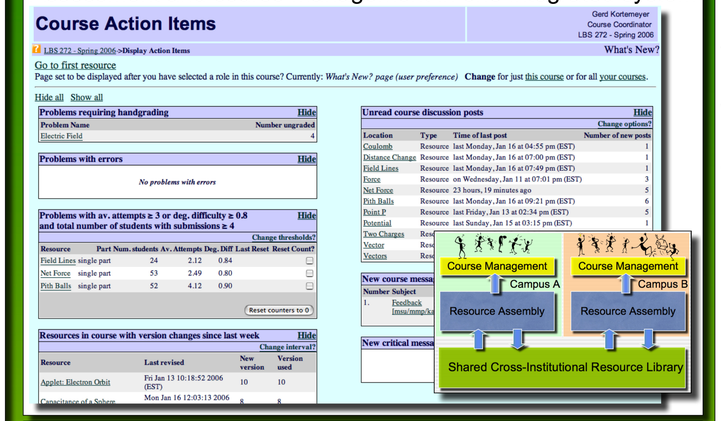


(in N)

22. A○ 7.03×10^{2} B○ 1.02×10^{3} C○ 1.48×10^{3}
D○ 2.14×10^{3} E○ 3.11×10^{3} F○ 4.50×10^{3}
G○ 6.53×10^{3} H○ 9.47×10^{3}

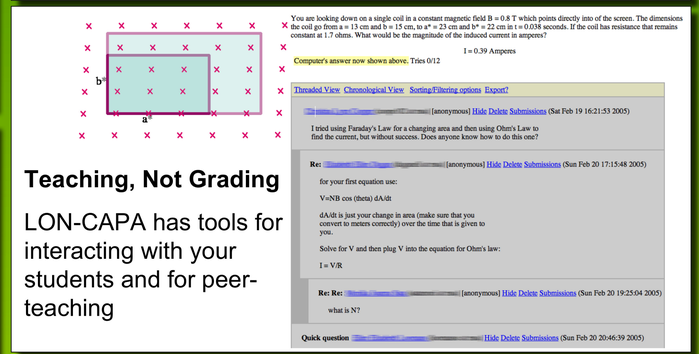
Course Management

Assessment and course management in one integrated system



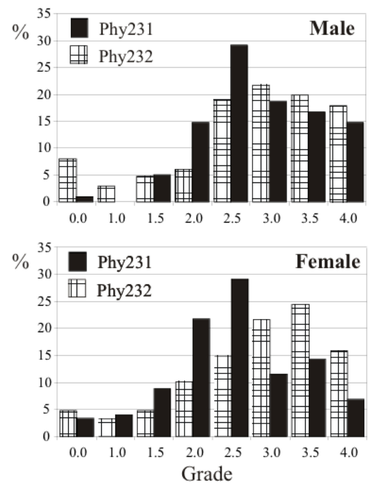
Teaching, Not Grading

LON-CAPA has tools for interacting with your students and for peer-teaching

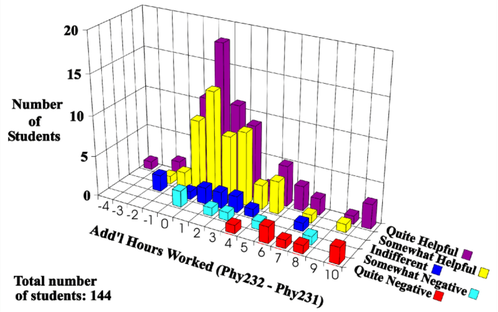


Does Online Homework Make a Difference?

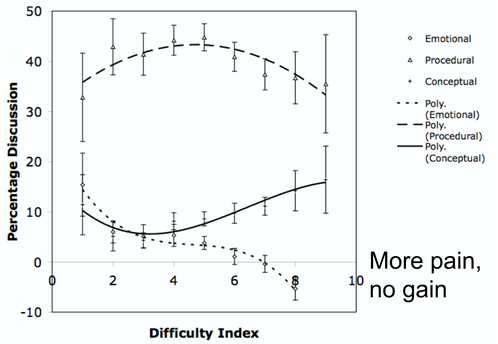
Phy231 (first semester) was taught without, and Phy232 (second semester) with online homework.
•Most impact for students who are on the brink of failing the course (grade of 2.0)
•Stronger effect for female students



Self-Reported Additional Time on Task versus Perceived Helpfulness



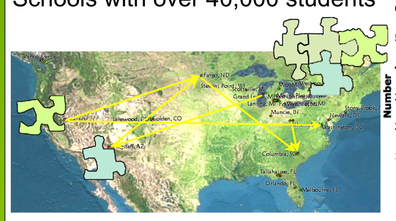
Do Hard Problems Lead to Better Discussions?

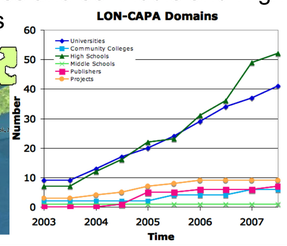


More pain, no gain

Network

Joining 46 Colleges and Universities and 50 Middle and High Schools with over 40,000 students



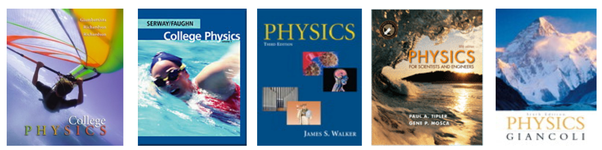


Clickers

LON-CAPA supports iClicker and interwrite PRS

Back-of-The-Chapter Libraries

LON-CAPA has the back-of-the-libraries for many standard textbooks coded and ready to go.

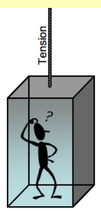


Elevator Problem

Due never

An elevator (cabin mass 500 kg) is designed for a maximum load of 2600 kg, and to reach a velocity of 3 m/s in 5 s. For this scenario, what is the tension the elevator rope has to withstand? 32270 kg*m/s^2

Submit Answer Tries 0/99



We Know Units

LON-CAPA understands physical units and their relationships.

We Do Math

LON-CAPA understands LaTeX and symbolic math

What is the derivative of

$$\begin{pmatrix} 4t^3 \\ 8t^8 \end{pmatrix}$$

with respect to t? 4t^2,8t^7

You need to multiply with the original exponent.

Submit Answer Incorrect. Tries 1

Give an example of a function

1. which is orthogonal to $6\cdot\cos(7\cdot x)-2\cdot\sin(2\cdot x)$ with respect to the scalar product
$$< g \mid h >= \frac{1}{\pi}\int_{-\pi}^{\pi} dx\, g(x)\cdot h(x)$$
2. whose norm is 1.

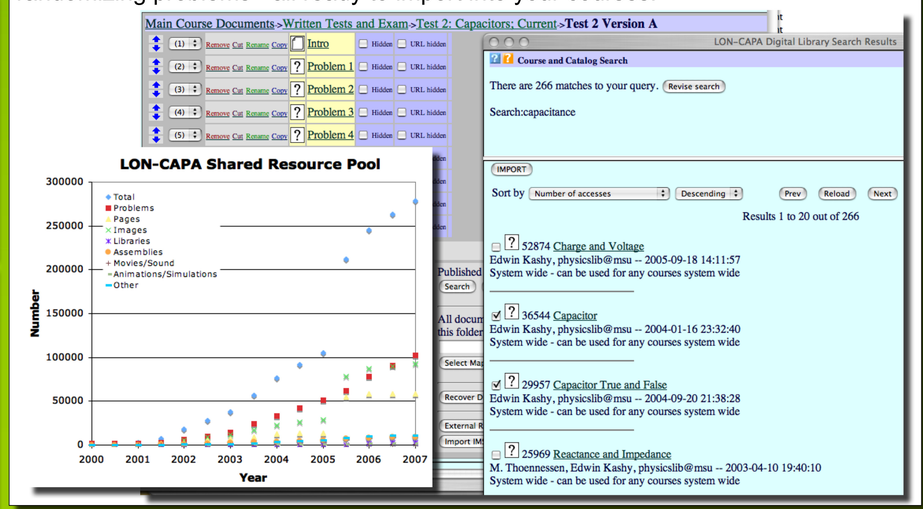
cos(2x)+sin(7x)

The function you have provided does not have a norm of one.

Submit Answer Incorrect. Tries 1

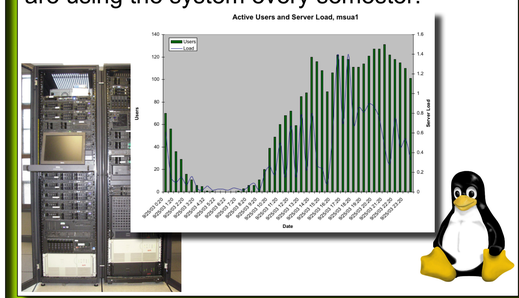
Share Your Stuff

LON-CAPA has a shared content pool of over 275,000 resources, including 100,000 randomizing problems - all ready to import into your courses.



Open Source, Free, *and* Scalable

LON-CAPA is open-source software and free, but also ready for the machine room: at Michigan State University, more than 16,000 student course enrollments are using the system every semester.



www.lon-capa.org

MICHIGAN STATE UNIVERSITY