

## Featured software

Distillation simulator	<a href="http://www.vaxasoftware.com/soft_eduen/sden.html">www.vaxasoftware.com/soft_eduen/sden.html</a>
FunGraph - Graphs of mathematical functions	<a href="http://www.vaxasoftware.com/soft_eduen/fungraph.html">www.vaxasoftware.com/soft_eduen/fungraph.html</a>
Design of distillation columns by McCabe-Thiele method	<a href="http://www.vaxasoftware.com/soft_eduen/mcth.html">www.vaxasoftware.com/soft_eduen/mcth.html</a>
Worksheets Generators for Maths and Chemistry	<a href="http://www.vaxasoftware.com/pc/index.html">www.vaxasoftware.com/pc/index.html</a>
Acid-base equilibrium calculator	<a href="http://www.vaxasoftware.com/soft_eduen/abew.html">www.vaxasoftware.com/soft_eduen/abew.html</a>
Statistics and Probability tools for Windows	<a href="http://www.vaxasoftware.com/soft_eduen/statool.html">www.vaxasoftware.com/soft_eduen/statool.html</a>

Faraday-Lenz's law of induction: <i>emf</i> ( $\varepsilon$ ) induced in $N$ loops by flux variation ( $\phi$ )	$\varepsilon = -N \frac{\Delta\phi}{\Delta t}, \quad \varepsilon = -N \frac{d\phi}{dt}$
Self-induced <i>emf</i> ( $\varepsilon$ ) in a loop by current variation ( $I$ )	$\varepsilon = -L \frac{\Delta I}{\Delta t}, \quad \varepsilon = -L \frac{dI}{dt}$
Self-induced <i>emf</i> ( $\varepsilon$ ) in a mobile conductor of length ( $l$ ) and speed ( $v$ ) inside a magnetic field ( $B$ )	$\varepsilon = B \cdot l \cdot v \cdot \sin \theta$
Self-inductance of a coil of ( $N$ ) loops with section ( $S$ ) and length ( $l$ )	$L = \frac{\mu N^2 S}{l}, \quad L = \frac{NBS}{I}, \quad L = \frac{N\phi}{I}$ $\mu = \mu_r \mu_0$
Energy of coil with electrical current ( $I$ ) and self-inductance ( $L$ )	$T = \frac{1}{2} L \cdot I^2$
Transformer (P=Primary winding, S=Secondary winding)	$\frac{V_S}{V_P} = \frac{N_S}{N_P} = \frac{I_P}{I_S}$
Flux through a loop	$\phi = B \cdot S \cdot \cos \alpha$

Symbol	Magnitude	S.I. unit
$\varepsilon$	Emf (electromotive force) (Volt)	V
$B$	Magnetic field (Tesla)	$T = N \cdot A^{-1} \cdot m^{-1}$
$I$	Current intensity (Ampere)	$A = C \cdot s^{-1}$
$\phi$	Magnetic flux (Weber)	$Wb = T \cdot m^2$
$N$	Number of loops in a coil	
$L$	Self-inductance of a coil (Henry)	H
$t$	Time	s
$v$	Speed	$m \cdot s^{-1}$
$V$	Voltage in a transformer (Volt)	V
$l$	Length of conductor or solenoid	m
$S$	Loop section	$m^2$
$\alpha$	Angle between magnetic field vector and normal vector of loop	rad <i>or</i> degrees
$\theta$	Angle between magnetic field vector and velocity vector	rad <i>or</i> degrees
$T$	Coil energy	J
$\mu_0$	Permeability of vacuum (constant) = $4 \cdot \pi \cdot 10^{-7}$	$T \cdot m \cdot A^{-1}$
$\mu$	Permeability of material	$T \cdot m \cdot A^{-1}$
$\mu_r$	Relative permeability of material	