Cluster I

76 topics < 93.75 hours >
prerequisites in other clusters linked to topic here: 35
successors in other cluster linked to topic here: 14
Previous prerequisites/successors pairs in this cluster 96 Next

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Prerequisite Topic		⇒	Successor Topic
automatic control systems	< 2.0 hr >	⇒	standard feedback control formulation < 1.0 hr >
automatic control systems	< 2.0 hr >	⇒	system integration < 1.0 hr >
closed loop control concepts	< 1.0 hr >	⇒	root locus < 1.0 hr >
computer graphics	< 1.0 hr >	⇒	graphical presentation of data < 0.5 hr >
continuous functions_2	< 1.0 hr >	⇒	root finding < 1.0 hr >
control systems	< 3.0 hr >	⇒	closed loop control concepts < 1.0 hr >
control systems	< 3.0 hr >	⇒	matlab < 1.0 hr >
control systems	< 3.0 hr >	⇒	open loop control concepts < 1.0 hr >
control systems	< 3.0 hr >	⇒	position control scheme < 1.0 hr >
control systems	< 3.0 hr >	⇒	standard feedback control formulation < 1.0 hr >
control	< 1.0 hr >	⇒	automatic control systems < 2.0 hr >
control	< 1.0 hr >	⇒	control systems < 3.0 hr >
control	< 1.0 hr >	⇒	feedback control < 2.0 hr >
control	< 1.0 hr >	⇒	governors < 0.5 hr >
control	< 1.0 hr >	⇒	inverted pendulum < 1.0 hr >
control	< 1.0 hr >	⇒	pole zero compensation < 1.0 hr >
control	< 1.0 hr >	⇒	servomechanisms < 0.5 hr >
damping effects	< 3.0 hr >	⇒	harmonically excited systems < 2.0 hr >
data analysis_2	< 1.0 hr >	⇒	amplitude & phase < 1.0 hr >
data analysis_2	< 1.0 hr >	⇒	high pass filters < 0.25 hr >
dc circuits	< 2.0 hr >	⇒	dc servomotors < 0.5 hr >

dc circuits < 2.0 hr >	⇒	proportional derivative integral control < 1.0 hr >
dc servomotors < 0.5 hr >	⇒	servomechanisms < 0.5 hr >
eigenvalues < 2.0 hr >	⇒	eigenvectors < 1.0 hr >
eigenvalues < 2.0 hr >	⇒	equations, higher order linear differential < 2.0 hr >
eigenvalues < 2.0 hr >	⇒	mode shape functions in vibration analysis < 0.5 hr >
eigenvalues < 2.0 hr >	⇒	phase plane < 1.0 hr >
eigenvalues < 2.0 hr >	⇒	root finding < 1.0 hr >
eigenvectors < 1.0 hr >	⇒	equations, higher order linear differential < 2.0 hr >
eigenvectors < 1.0 hr >	⇒	feedback control < 2.0 hr >
equations, higher order linear differential < 2.0 hr >	⇒	boundary value problems < 1.0 hr >
equations, higher order linear differential < 2.0 hr >	⇒	complex roots in linear differential equations < 2.0 hr >
equations, higher order linear differential < 2.0 hr >	⇒	damping effects < 3.0 hr >
equations, higher order linear differential < 2.0 hr >	⇒	equations, undetermined coefficent linear differential < 0.5 hr >
equations, higher order linear differential < 2.0 hr >	⇒	harmonically excited systems < 2.0 hr >
equations, higher order linear differential < 2.0 hr >	⇒	linear independence of solutions < 0.5 hr >
equations, higher order linear differential < 2.0 hr >	⇒	matrix exponential < 1.0 hr >
equations, higher order linear differential < 2.0 hr >	⇒	mode shape functions in vibration analysis < 0.5 hr >
equations, higher order linear differential < 2.0 hr >	⇒	phase plane < 1.0 hr >
equations, higher order linear differential < 2.0 hr >	⇒	root finding < 1.0 hr >
equations, higher order linear differential < 2.0 hr >	⇒	single degree-of-freedom vibration < 2.0 hr >
equations, higher order linear differential < 2.0 hr >	⇒	variation of parameters < 0.5 hr >
feedback control < 2.0 hr >	⇒	inverted pendulum < 1.0 hr >
feedback control < 2.0 hr >	⇒	position control scheme < 1.0 hr >

feedback control	< 2.0 hr >	⇒	proportional derivative integral control < 1.0 hr >
feedback control	< 2.0 hr >	⇒	robotic arm modeling < 0.5 hr >
feedback control	< 2.0 hr >	⇒	servomechanisms < 0.5 hr >
feedback control	< 2.0 hr >	⇒	standard feedback control formulation < 1.0 hr >
feedback control	< 2.0 hr >	⇒	system design with state variable feedback & series compensation < 2.0 hr >
frequency response	< 4.0 hr >	⇒	fft & modern spectral analysis < 2.0 hr >
frequency response	< 4.0 hr >	⇒	high pass filters < 0.25 hr >
frequency response	< 4.0 hr >	⇒	low pass filters < 0.5 hr >
frequency response	< 4.0 hr >	⇒	nyquist criteria < 1.0 hr >
frequency response	< 4.0 hr >	⇒	sound < 0.5 hr >
frequency response	< 4.0 hr >	⇒	spectral density functions < 1.0 hr >
frequency response	< 4.0 hr >	⇒	spectrum < 1.0 hr >
frequency response	< 4.0 hr >	⇒	transverse string vibrations, continuous systems < 0.5 hr >
graphs	< 0.5 hr >	⇒	graphic solutions < 0.5 hr >
graphs	< 0.5 hr >	⇒	least squares < 1.0 hr >
harmonic motion	< 2.0 hr >	⇒	damping effects < 3.0 hr >
harmonic motion	< 2.0 hr >	⇒	inverted pendulum < 1.0 hr >
harmonic motion	< 2.0 hr >	⇒	mode shape functions in vibration analysis < 0.5 hr >
harmonic motion	< 2.0 hr >	⇒	single degree-of-freedom vibration < 2.0 hr >
harmonic motion	< 2.0 hr >	⇒	transverse string vibrations, continuous systems < 0.5 hr >
harmonic motion	< 2.0 hr >	⇒	two degree-of-freedom vibration < 1.0 hr >
harmonic motion	< 2.0 hr >	⇒	vibration measurements < 1.0 hr >
machine systems & components	< 2.0 hr >	⇒	machine analysis < 3.0 hr >
machine systems & components	< 2.0 hr >	⇒	machines & frames < 1.0 hr >
machine systems & components	< 2.0 hr >	⇒	motors < 2.0 hr >
mass (measurement of)_2	< 0.5 hr >	⇒	open systems < 1.0 hr >
matlab	< 1.0 hr >	⇒	graphical presentation of data < 0.5 hr >

matlab < 1.0 hr >	⇒	graphs < 0.5 hr >
motors < 2.0 hr >	⇒	function of mechanical components < 2.0 hr >
motors < 2.0 hr >	⇒	hydraulic control systems < 1.0 hr >
motors < 2.0 hr >	⇒	servomechanisms < 0.5 hr >
motors < 2.0 hr >	⇒	shafts < 1.0 hr >
multi-degree-of-freedom vibration < 2.0 hr >	⇒	modal analysis < 2.0 hr >
multi-degree-of-freedom vibration < 2.0 hr >	⇒	modal matrix < 1.0 hr >
open loop control concepts < 1.0 hr >	⇒	closed loop control concepts < 1.0 hr >
open systems < 1.0 hr >	⇒	control < 1.0 hr >
open systems < 1.0 hr >	⇒	open loop control concepts < 1.0 hr >
open systems < 1.0 hr >	⇒	proportional derivative integral control < 1.0 hr >
pneumatic control systems < 1.0 hr >	⇒	automatic control systems < 2.0 hr >
pumps & turbines_2 < 0.5 hr >	⇒	hydraulic control systems < 1.0 hr >
resonance < 2.0 hr >	⇒	frequency response < 4.0 hr >
root finding < 1.0 hr >	⇒	root locus < 1.0 hr >
single degree-of-freedom vibration < 2.0 hr >	⇒	multi-degree-of-freedom vibration < 2.0 hr >
sinusoidal sources < 1.0 hr >	⇒	amplitude & phase < 1.0 hr >
sinusoidal sources < 1.0 hr >	⇒	average & rms power < 1.0 hr >
sinusoidal sources < 1.0 hr >	⇒	vibration measurements < 1.0 hr >
spectrum < 1.0 hr >	⇒	fft & modern spectral analysis < 2.0 hr >
spectrum < 1.0 hr >	⇒	spectral density functions < 1.0 hr >
sum & average of random samples < 0.5 hr >	⇒	high pass filters < 0.25 hr >
sum & average of random samples < 0.5 hr >	⇒	low pass filters < 0.5 hr >
vibration measurements < 1.0 hr >	⇒	exact solutions in vibration analysis < 1.0 hr >
vibration measurements < 1.0 hr >	⇒	single degree-of-freedom vibration < 2.0 hr >
strains under shearing forces < 2.0 hr >		
strains under torsional forces < 1.0 hr >		