



Doctorate of Engineering Degree Requirements
72 Credits (Applicable Master's Degree not already earned)

Coursework					
	Cr.	Course Number	Course Title	Offering	
Required	3	SYSE 501	Foundations of Systems Engineering	F/S	
Required	3	ENGR 502†	Engineering Project Management and Program Management	F/S°/Su°	
Required	3	SYSE 530	Overview of Systems Engineering Processes	F/S	
Required	3	ENGR 531	Engineering Risk Analysis	S/F°/Su°	
Required	3	SYSE 710	Leadership/Innovation in Systems Engineering	F	
SE Depth Courses Choose 21 Credits	3	SYSE/ECE 532	Dynamics of Complex Engineering Systems	F	
	3	SYSE 534	Human Systems Integration	S	
	3	SYSE 567	Systems Engineering Architecture	F	
	3	SYSE 569	Cybersecurity Awareness for Systems Engineers	S°/Su°	
	3	SYSE 571	Analytics in Systems Engineering	F	
	3	SYSE 573	Cost Optimization for Systems Engineers	S	
	3	SYSE 602	Systems Requirements Engineering	F	
	3	SYSE 603	Introduction to Systems Test and Evaluation	S	
	3	SYSE 667	Advanced Model-Based Systems Engineering	S°	
	3	ENGR 510	Engineering Optimization: Methods and Applications	F	
	3	ENGR 520	Engineering Decision Support/Expert Systems	S°	
	3	ENGR 525	Intellectual Property and Invention Systems	S°/Su°	
	3	ENGR/ECE 565	Electrical Power Engineering	S	
	3	ENGR 570	Coupled Electromechanical Systems	F	
	3	MECH 513	Simulation Modeling and Experimentation	S	
			SYSE _____	(Experimental or new courses may be offered; complete list available at https://www.engr.colostate.edu/se/courses/)	
	Applied Electives (at least 3 credits)	2	BUS 500	Business Systems and Processes	F/S/Su
2		BUS 601	Quantitative Business Analysis	S/Su	
3		CIS 570	Business Intelligence	S/Su	
3		CIS 575	Applied Data Mining and Analytics in Business	F	
Professional Electives (at least 3 credits)	2	BUS 620	Leadership and Teams	F/S	
	2	BUS 630	Information Management	F/S	
	3	CIS 676	Information Technology Management	S	
	1	SYSE 711	Ethics in Systems Engineering	Su	
	3	PSY 647	Applied Industrial Psychology	F	
Technical Electives (at least 12 credits)	3	PSY 648	Applied Organizational Psychology	S	
	Choose from SE Elective List*				
Research Project					
Minimum Required	9	SYSE 786	Applied Systems Engineering Practicum	F/S/Su	
Minimum Required	9	SYSE 799B	Dissertation: Professional Doctorate	F/S/Su	

* Maximum of 6 credits at 400-level may apply to degree

† CIS 600A or CIS 670 may be substituted for ENGR 502

SYSE 710 must be completed before enrolling in SYSE 786. The preliminary exam and most 786 credits should be complete before SYSE 799B. Please note other courses may have additional prerequisites.

‘Offering’ Key (when courses are *expected* to be offered; there is no guarantee for any specific semester):

F = Fall, S = Spring, Su = Summer, ° = even years only, ° = odd years only