

## Expected Course Offerings

### Systems Engineering

The schedule below is based on historical patterns and expected scheduling. The semester and location in which a course may be offered is **subject to change** due to instructor availability, student demand, and the need to provide an appropriate balance of subjects and course levels in all semesters. Courses may be offered at the Applied Physics Laboratory (APL) (3VL), online (O), or Virtual Live (8VL), as indicated.

Course #	Course Name	Pre-Req*	Summer	Fall	Spring
<b>Core Courses</b>					
645.662	Introduction to Systems Engineering	None	O	O, 8VL	O, 8VL
645.667	Management of Systems Projects	None	O, 8VL	O, 8VL	O, 8VL
645.764	Software Systems Engineering	662, 667	O	O, 3VL	O, 3VL
645.767	System Conceptual Design	662, 667	O, 8VL	O, 8VL	O, 8VL
645.768	System Design & Integration	662, 667, 764, 767	O	O, 8VL	O, 8VL
645.769	System Test & Evaluation	662, 667, 764, 767, 768	O	O, 8VL	O, 8VL
645.800	Systems Engineering Project	662, 667, 764, 767, 768, 769	O	O, 8VL	O, 8VL
<b>OR</b>					
645.801/802	Systems Engineering Thesis	662, 667, 764, 767, 768, 769	O	O	O
<b>Course # Course Name Pre-Req* Summer Fall Spring</b>					
<b>Systems Electives</b>					
645.669	Systems Engineering of Deployed Systems	667		O	O
645.742	Management of Complex Systems	662, 667, 764, 767, 768, 769	O	O	O
645.753	Enterprise Systems Engineering	662, 667, 764, 767, 768, 769	O	O	O
645.761	Systems Architecting	662, 667, 764, 767, 768, 769	O	O	O
645.766	Systems Engineering Advanced Technology	662, 667	8VL		8VL
645.771	System of Systems Engineering	662, 667, 764, 767, 768, 769		O	O, 8VL**
645.780	Agile Systems Engineering	662, 667, 764, 767	O	O	O
645.781	Systems Thinking and Systems Dynamics	662, 767	O	O	O
645.783	Systems Engineering Process Improvement				
645.784	Decision Science and Analytics in Systems Engineering (NEW FA24)			8VL	O
<b>Human Systems Electives</b>					
635.661	Principles of Human Computer Interaction	662		O	
645.621	Engineering and Measuring Influence	662		O	O
645.650	Foundations of Human Systems Engineering	662		O	O
645.651	Integrating Humans and Technology	662		O	O
645.755	Methods in Human-System Performance Measurement and Analysis	662		O	O
<b>Modeling and Simulation Electives</b>					
625.603	Statistical Methods and Data Analysis	Multivariate calculus	See Applied & Computational Math Offering page for Schedule		
645.631	Introduction to Model Based Systems Engineering	662	O	O	O
645.632	Applied Analytics for Model Based Systems Engineering	631		O	O
645.756	Metrics, Modeling, and Simulation for SE	662, 667, 767		8VL	8VL
645.757	Foundations of Modeling and Simulation in SE	662		O	
645.758	Advanced Systems Modeling and Simulation	757			O
645.782	Foundations of Digital and Mission Engineering	662			O
<b>Cybersecurity</b>					
635.611	Principles of Network Engineering		See Cybersecurity Course Offering page for schedule		
635.672	Privacy Engineering				
635.673	Protecting Critical Infrastructure Against Cyber Attacks				
635.676	Cybersecurity in Information Systems				
635.682	Website Development				
635.683	E-Business: Models, Architecture, Technologies, and Infrastructure				
695.601	Foundations of Information Assurance				
695.621	Public Key Infrastructure and Managing E-Security				
695.744	Reverse Engineering and Vulnerability Analysis				
<b>Project Management</b>					
595.662	Technical Organization Management	667	See Engineering Management Course Offering page for schedule		
595.665	Strategic Communications in Technical Management	667			
595.676	Finance, Contracts, and Compliance for Technical Professionals	667			
595.727	Advanced Concepts in Agile Technical Management	667			

\*See catalog of complete list and description of prerequisites

\*\*Odd years only

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Course #	Course Name	Pre-Req*	Summer	Fall	Spring
<b>Software Systems</b>					
605.604	Object-Oriented Programming with C++	Knowledge of Java or C++	See Computer Science Course Offering page for schedule		
605.607	Agile Software Development Methods	662, 667			
605.608	Software Project Management	3-5 years technical work experience			
605.704	Object-Oriented Analysis and Design	Experience in OOP such as Java or C++			
605.705	Software Safety	662, 667			
605.708	Tools and Techniques of Software Project Management	3-5 years technical work experience			

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