Space Systems Engineering Course Schedule Plan

Ten courses are required for the SSE degree, at least three of which must be 700-level. Students must complete five core courses and five electives. All courses must be completed within five years. The student's advisor will consider special requests to enroll in alternate electives on a case-by-case basis. Prerequisites below will generally apply but may be waived in special circumstances, only with instructor approval.

Courses are subject to cancellation for insufficient enrollment.

Refer to the EP website http://ep.jhu.edu/ for course offerings each semester.

Delivery methods: OL (completely online, recorded, asynchronous), 3VL (virtual live with in-person option, synchronous, students may attend virtually or in-person), 8VL (virtual live with no in-person option, synchronous, students attend virtually), SP (special, OL during the semester with in-person weekend component, see course listing for details).

CORE COURSES

Course Number	Course Title	Prerequisites (as listed or with instructor approval)	Delivery method[1]	Offering plan[1]
675.600	Systems Engineering for Space	Admission into program	OL	Each semester
675.601	Fundamentals of Engineering Space Systems I (FESS I)	675.600	OL	Fall, Spring
675.602	Fundamentals of Engineering Space Systems II (FESS II)	675.600, 675.601	OL	Fall, Spring
675.701	Applications of Space Systems Engineering	675.600, 675.601, 675.602	OL	Fall, Spring
675.710	Small Satellite Development and Experimentation	675.600, 675.601, 675.602	SP	Each semester

[1]Please consult the semester schedule when registering as delivery methods and offering schedule may change.

SSE Program Electives shown below.

SSE PROGRAM ELECTIVES – 3VL in-person option at APL unless denoted as Bloomberg Center (BC)

Upcoming indicates course in development with starting date not yet determined.

Course Number	Course Title	SSE (675)Prerequisites (as listed or with instructor approval)	Delivery method[1]	Offering plan[1]
675.613	The Bold Science Motivating and Enabled by Space Engineering	600, 601	OL	Each semester
675.613	The Intersection of Space Systems Engineering and International Public Policy	N/A	TBD	Fall
675.621	Space Environmental Effects	600	OL	Fall, Summer
675.622	Spacecraft Hardware Design and Considerations	See course listing	OL	Each semester
675.641	Space Systems Cybersecurity	600, 601	8VL	Fall, Summer
675.650	Mathematics for Space Systems	See course listing	OL	Each semester
675.691	Electro-Optical Space Systems	See course listing	OL	Each semester
675.702	Materials for Space Systems	600, 601	3VL	Each semester
675.711	Ground System Engineering and Mission Operations	600, 601	OL	Fall, Spring
675.712	Space Mission Formulation	600, 601	3VL	TBD
675.713	Fault Management and Autonomy: Improving Spacecraft Survivability	600, 601	OL	Fall, Summer
675.721	Spacecraft Power Systems (upcoming)	600,601	TBD	TBD
675.722	Space Mechanical Systems Design and Analysis (upcoming)	600, 601	TBD	TBD
675.731	Spacecraft Propulsion Systems	600, 601	3VL or 8VL	Each semester
675.732	Advanced Topics in Aerospace Hardware	600, 601, 622	TBD	Each semester
675.733	Spacecraft Rendezvous and Proximity Operations	600, 601	8VL	Each semester
675.734	Fundamentals of Celestial and Orbital Mechanics	N/A	8VL	Each semester
675.740	Assuring Success in Aerospace Programs	600, 601	OL	Each semester
675.751	Space Weather and Space Systems	See course listing	OL	Each semester
675.752	Attitude Determination and Control of Space Systems	600, 601, 650	8VL	Fall, Spring
675.753	Spacecraft Avionics Systems	600, 601	OL	Fall, Spring
675.754	Flight Software for Space Systems	600, 601	OL	Each semester
675.756	Antenna Design for Space Systems	See course listing	3VL or 8VL	Fall, Spring
675.761	Reliability Engineering and Analysis for Space Missions	600, 601	8VL	Each semester
675.762	CisLunar Mission Systems Engineering (upcoming)	600, 601	TBD	TBD
675.768	Spacecraft Integration and Test	600, 601	OL	Fall, Spring
675.771	Space Mission Design and Navigation	600, 601, 650	OL	Fall, Spring
675.772	Verification and Validation of Space Systems	600, 601	8VL	

675.781	Physics of Space Security	600,601	8VL	TBD
675.792	Scientific Instruments for Space	600, 601	TBD	TBD
675.800	Directed Studies in Space Systems Engineering	Program Chair approval		
525.640	Satellite Communications Systems	See Electrical and Computer Engineering Program details		
525.744	Passive Emitter Geo-Location			

[1]Please consult the semester schedule when registering as delivery methods and offering schedule may change.