JHU EP Space Systems Engineering
Requirements, Prerequisites, and Electives

9/24/2020

Ten courses are required for the SSE degree, at least three of which must be 700-level. Students must complete the five core courses listed below 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. Contact the instructor and your Advisor.

Course offerings vary by semester or format. VL is Virtual Live.

For a description of Virtual Live refer to **https://ep.jhu.edu/programs-and-courses/program-pathways/on-site**

Courses are subject to cancellation for insufficient enrollment.

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

If a course you plan to take is not listed in the schedule, consult your Advisor.

As of summer 2018, all 400-level EP courses were renumbered to 600-level, e.g. 675.401 became 675.601. This change allows EP courses to conform to the JHU Whiting School numbering system. These changes are incorported below.

CORE COURSES (5)			Onsite @ APL	VL @ APL	Online
Number	**Course Title**	**Prerequisites (As listed or with advisor approval)**			
675.600	Systems Engineering for Space	Admission into program			x
675.601	Fundamentals of Engineering Space Systems I	675.600			x
675.602	Fundamentals of Engineering Space Systems II	675.600, 675.601			x
675.701	Applications of Space Systems Engineering	675.600, 675.601 & 675.602			x
675.710	Small Satellite Development & Experimentation	675.600, 675.601 & 675.602			x

675.600 is offered each semester. 675.601, 675.602, and 675.701 are offered fall and spring only. 675.710 is currently offered only fall and spring, it will be offered in summer 2021.

SSE PROGRAM ELECTIVES			Onsite @ APL	VL @ APL	Online
675.621	Space Environmental Effecs *(new for fall 2020)*	675.600, 675.601		x	
675.622	Spacecraft Hardware Design and Considerations *(new for fall 2020)*	N/A		x	
675.640	Satellite Communications Systems	See course homepage			x
675.650	Mathematics for Space Systems	See course homepage			x
675.691	Electro-Optical Space Systems	N/A			x
675.711	Ground System Engineering & Mission Operations	675.600, 675.601			x
675.713	Fault Management & Autonomy: Improving Spacecraft Survivability *(new for fall 2020)*	675.600, 675.601		x	
675.731	Spacecraft Propulsion	675.600, 675.601		x	
675.740	Assuring Success of Aerospace Programs *(x-list 595.740)*	675.600, 675.601			x
675.741	Passive Emitter Geo-Location *(x-list 525.744) (fall only)*	675.600, 675.601, 525.614		x	
675.751	Space Weather and Space Systems	See course homepage			x
675.752	Attitude Determination & Control of Space Systems	675.600, 675.601 and 675.650		x	
675.753	Spacecraft Avionics Systems *(new for spring 2021)*	675.600, 675.601			x
675.754	Flight Software for Space Systems	675.600, 675.601			x
675.756	Antenna Design for Space Systems	See course homepage		x	
675.761	Reliability Engineering & Analysis for Space Missions	675.600, 675.601		x	
675.768	Spacecraft Integration and Test *(new for fall 2020)*	675.600, 675.601			x
675.771	Space Mission Design and Navigations *(new for fall 2020)*	675.600, 675.601 and 675.650			x
675.772	Verification and Validation of Space Systems	675.600, 675.601		x	
675.800	Directed Studies in Space Systems Engineering	Program chair approval		x	x