

**(591) Astronautical Engineering Matrix - URL Matrix w/ Integrated JPME
and Refresher (updated 5/21/2024)**

Qtr	Course	Course	Course	Course	Seminar	Course
0 Su	MA1995 (5-1) Engineering Math I	MA1996 (5-1) Engineering Math II	PH1121 (4-2) Mechanics	PH1322 (4-2) Electromagnetism	SS4000 (0-1) Seminar	
1 F	MA2097 (4-0) Engineering Math III	AE2440 Introduction to Scientific Programming	AE3840 (3-2) Introduction to Spacecraft Structures	ME2801 (3-2) Control Systems	SS4000 (0-1) Seminar	
2 W	SS3500 (4-2) Orbital Mechanics & Launch Systems	PH3052 (4-0) Remote Sensing	EO3510 (4-1) S/C Communications Engineering	AE3804 (3-0) Thermal Control of Spacecraft	SS4000 (0-1) Seminar	JPME - NW3230 (4-0) Strategy & War
3 Sp	PH2514 (4-0) Space Environment	MN3331(5-1) Principles of Acquisition & Pgm Management	AE3818 (3-2) Spacecraft Attitude Determination & Control	AE3830 (3-2) Spacecraft Guidance & Control	SS4000 (0-1) Seminar	JPME - NW3285 (4-0) Theater Security Decision Making
4 Su	SS3861(2-4) Spacecraft Payload Design	EC3230 (3-1) Space Power	AE3851 (3-2) Spacecraft Propulsion	AE3811 (2-4) Space Systems Laboratory	SS4000 (0-1) Seminar	MA3232 (4-0) Numerical Analysis
5 F	AE4870 (2-4) Spacecraft Design & Integration I	AE0810 (0-8) Thesis Research	Degree/Track Elective	Degree/Track Elective	SS4000 (0-1) Seminar	JPME - NW3275 (4-0) Joint Maritime Operations - Part 1
6 W	AE4872 (2-4) Spacecraft Design & Integration II	SS3001 (4-1) Military Applications of Nat. Space TS/SCI	AE0810 (0-8) Thesis Research	Degree/Track Elective	SS4000 (0-1) Seminar	JPME - NW3276 (2-2) Joint Maritime Operations - Part 2
7 Sp	SS3051 (4-0) Mil. DoD & Comm Space (S)	AE0810 (0-8) Thesis Research	AE0810 (0-8) Thesis Research	Degree/Track Elective		Legend
						Preparatory Courses
						591 Core
						Electives*
						JPME

*** Consult with your thesis advisor**