

2011-2013 CORE SKILL REQUIREMENTS  
Space Systems Engineering  
Subspecialty 5500  
Curriculum 591

The Space Systems Engineering subspecialty code (5500) is intended to provide a command with an officer who has the technical knowledge to plan and manage the development, design, acquisition, operation, tasking and employment of space surveillance, communications, navigation and atmospheric/oceanographic/ environmental sensing systems throughout their lifecycle. The following is a representative sample of requirements for which this subspecialty applies:

1. Formulate operational requirements, plans, policies, architectures, operational concepts, doctrine and tactics for development and employment of space systems and the information products, or the distribution, correlation and analysis of their information products.
2. Technical knowledge of the space environment, spacecraft design and operation, space systems technologies (e.g. launch systems, astronautics, spectral sensors, communications).
3. Proficient in orbital mechanics, systems analysis and integration, information management and digital processes.
4. Perform liaison with other services, agencies, and/or industry concerning policy and procedures for requirements development and analysis for the design, acquisition and operational employment of space systems, ground support segments and their information products.
5. Perform technical evaluation of space systems design and performance.
6. Provide recommendations to senior decision-makers regarding space systems engineering.

Billet subspecialty coding is to be based on the minimum education/training/experience level required for optimum performance. Space Systems Engineering - 5500 subspecialty coding is justified when, in addition to the general criteria stated in NAVPERS 15839 series (Manual of Navy Officer Manpower and Personnel Classification) Part B, the following specific criteria are satisfied:

1. Subspecialty Coding Restrictions

- a. Billets assigned to: 1000 - 1000 / 1001 - 1019 / 1021 -  
1049 / 1050 - 1050 / 1051 - 1099 / 1100 - 1109 / 1110 -  
1119 / 1120 - 1129 / 1130 - 1139 / 1140 - 1159 / 1160 -  
1169 / 1170 - 1179 / 1180 - 1189 / 1190 - 1199 / 1200 -

1209 / 1200 - 1299 / 1300 - 1399 / 1400 - 1499 / 1510 -  
1519 / 1600 - 1609 / 1610 - 1629 / 1630 - 1649 / 1800 -  
1899

2. Applicable Officer Designators: 1000 - 1000 / 1001 - 1019 / 1021  
- 1049 / 1050 - 1050 / 1051 - 1099 / 1100 - 1109 / 1110 - 1119 /  
1120 - 1129 / 1130 - 1139 / 1140 - 1159 / 1160 - 1169 / 1170 -  
1179 / 1180 - 1189 / 1190 - 1199 / 1200 - 1209 / 1200 - 1299 /  
1300 - 1399 / 1400 - 1499 / 1510 - 1519 / 1600 - 1609 / 1610 -  
1629 / 1630 - 1649 / 1800 - 1899 /

3. Applicable Billet Designators: 1000 - 1000 / 1001 - 1019 / 1021 -  
1049 / 1050 - 1050 / 1051 - 1099 / 1100 - 1109 / 1110 - 1119 /  
1120 - 1129 / 1130 - 1139 / 1140 - 1159 / 1160 - 1169 / 1170 -  
1179 / 1180 - 1189 / 1190 - 1199 / 1200 - 1209 / 1200 - 1299 /  
1300 - 1399 / 1400 - 1499 / 1510 - 1519 / 1600 - 1609 / 1610 -  
1629 / 1630 - 1649 / 1800 - 1899 /

4. Significant Experience Criteria:

- a. 5500 S-coded Billets are not authorized.
- b. 5500 S-coded Officers are not authorized.
- c. 5500 R-coded Billets are not authorized.
- d. 5500 R-coded Officers are authorized when:

(1) The officer has filled a B, S, R, P, Q coded billet for more than 18 months and has no Subspecialty Code in this field.

(2) FITREP justifies which s/he has accomplished the task(s) indicated above for more than 18 months.

5. Baccalaureate Criteria:

- a. 5500 E-coded Billets are not authorized.
- b. 5500 E-coded Officers are not authorized.

Enclosure (3)

6. Elective Level Criteria:

- a. 5500 H-coded Billets are not authorized.
- b. 5500 H-coded Officers are not authorized.

7. Functional Education Criteria:

- a. 5500 F-coded Billets are not authorized.
- b. 5500 G-coded Officers are not authorized.

8. Masters Criteria for:

- a. 5500 P-coded Billets are authorized when the billet requires all of the following:

- (1) The functions of the billet include the competencies listed above.

- b. 5500 P-coded Officers are authorized when:

- (1) The officer completes Space Systems Engineering/591 ESRs.

- (2) Full subspecialty will not be given if thesis is not completed. The officer will receive the F Subspecialty Code. Utilization and obligation are still required.

*(NOTE: When thesis is completed, student must apply to NPS registrar for new transcript which should be forwarded to PERS-43 to update Officer master file.)*

- c. 5500 Q-coded Billets are authorized when the billet requires the combination of both professional experience and proven subspecialist at the master's degree level.

- d. 5500 Q-coded Officers are authorized when:

- (1) The officer attends a civilian institution and earns a degree but doesn't meet the ESRs for the P-code.

(2) They complete Space Systems Engineering/591 ESRs and have done at least 18 months in a master's degree coded billet or higher - Must have a P code prior to Q coded tour.

(3) F coded officers cannot obtain Q codes. They will be authorized G codes.

9. Post-Masters:

- a. 5500 N-coded Billets are not authorized.
- b. 5500 N-coded Officers are not authorized.
- c. 5500 M-coded Billets are not authorized.
- d. 5500 M-coded Officers are not authorized.

10. Doctorate Criteria:

a. 5500 D-coded Billets are authorized when the billet requires:

(1) Permanent Military Professor per NAVADMIN Selection Board.

b. 5500 D-coded Officers are authorized when:

(1) The officer completes Curriculum 591 ESRs

(2) The officer completes an ABET accredited PhD program and dissertation in one of the following degree fields:

Astronautical Engineering, Computer Science Engineering, Electrical Engineering, Mechanical Engineering, or Physics.

c. 5500 C-coded Billets are not authorized.

d. 5500 C-coded Officers are not authorized.

11. Community Managers and the Budget Submitting Office have agreed to allow billets to be coded for Space Systems Engineering/591 and officers to be educated for this Curriculum.

Enclosure (3)

Designator	Officer	Community Manager Name	Approval Date
a. 1110	CDR Chase Patrick		Approved 16 OCT 2012
b. 1120	LCDR Todd Nethercott		Approved 31 OCT 2012
c. 1200/1230			CDR Brett Hinson Approved 5 NOV 2012
d. 1300	CDR David Whitehead		Approved 30 OCT 2012
e. 1440	LCDR David Schafer		Approved 15 OCT 2012
f. 1510	LCDR Holly Shoger		Approved 8 OCT 2012
g. 1520	LCDR Chris Haas		Disapproved 5 NOV 2012
h. 1800	LCDR Shane Stoughton		Approved 5 OCT 2012
i. 1810	LCDR Andy Newsome		Approved 5 OCT 2012
j. 1820	CAPT James Darenkamp		Approved 26 OCT 2012

12. Sponsor and Subject Matter Experts:

Sponsor: VADM Kevin M. McCoy, Naval Sea Systems Command

Subject Matter Expert: RDML James Rodman, Jr., SPAWAR Space Field Activity

APPROVED: *James H. Rodman Jr.* 10/03/2012  
RDML JAMES H. RODMAN, JR., SSFA [DATE]

APPROVED: *Jan E. Tiche* 1/7/2013  
RDML JAN E. TICHE, NPS [DATE]

APPROVED: *Markus* 6/07/2013  
OPNAV N15 [DATE]